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FOREST SURVEY RELEASE NO. 10

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# THE DISTRIBUTION OF COMMERCIAL FOREST TREES IN VIRGINIA

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by

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A FOREST SURVEY PROGRESS REPORT

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## PREFACE

Through the McSweeny-McNary Act of 1928, Congress authorized the Secretary of Agriculture to conduct a comprehensive survey of the forest resources of the United States. The Forest Survey was organized by the Forest Service to carry out the provisions of the Act, and each of the 12 Regional Forest Experiment Stations is responsible for the work in its territory. In the Middle Atlantic States the Forest Survey is an activity of the Appalachian Forest Experiment Station, Asheville, North Carolina.

The work of the Survey is divided into 5 major phases:

1. Inventory. Determination of the extent, location, and condition of forest lands, and the quantity, species, and quality of timber on these lands.

2. Growth. Determination of the current rate of timber growth.

3. Drain. Determination of the amount of industrial and domestic wood used, and the total loss resulting from fire, insects, disease, suppression, and other causes.

4. Requirements. Determination of the current and probable future requirements for forest products by all classes of consumers.

5. Policies and plans. Analysis of the relation of these findings to one another and to other economic factors as a basis for public and private policies and plans of forest land use and management.

This progress report presents information on one part of the inventory phase of the Survey and deals specifically with the geographic distribution of the more important commercial forest trees in Virginia.

The report is made possible through the assistance received from the personnel of the Work Projects Administration. Particular credit is due Mr. T. A. Lindsey of the Work Projects staff. The preparation of the maps from the basic field data was official project 165-2-32-94.

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A detailed description of the forest resource and industries will be contained in forthcoming unit reports for the Coastal Plain, Piedmont, and Mountain areas of Virginia.

# THE DISTRIBUTION OF COMMERCIAL FOREST TREES IN VIRGINIA

The geographic distribution of forest tree species and sizes is important to wood-using industries, particularly when their effort is directed toward the production of war materials. Both established plants and prospective industries must know the location of species and sizes suitable to their needs if they are to concentrate wood procurement activities effectively.

Maps included in this report are designed to show the occurrence of selected commercial species and sizes so as to roughly locate areas of concentration. For example, in Virginia, sugar maple sixteen inches or larger in diameter is confined to the mountains and is found in some concentration in only two small areas, one in the adjacent Buchanan and Dickenson Counties, the other in Highland County. Industries equipped with similar information for a number of timber species may lessen considerably the time and cost of wide reconnaissance for their timber supply.

## CONSTRUCTION OF MAPS

The procedure used by the Forest Survey is to establish one-quarter-acre sample plots at intervals of one-eighth mile along parallel compass lines, which are spaced at ten-mile intervals and extend across the five units into which the State is divided (fig. 1). The maps included here are based upon data recorded for over 31,000 such plots established in 1940. On each plot, representing approximately 800 acres, the required information

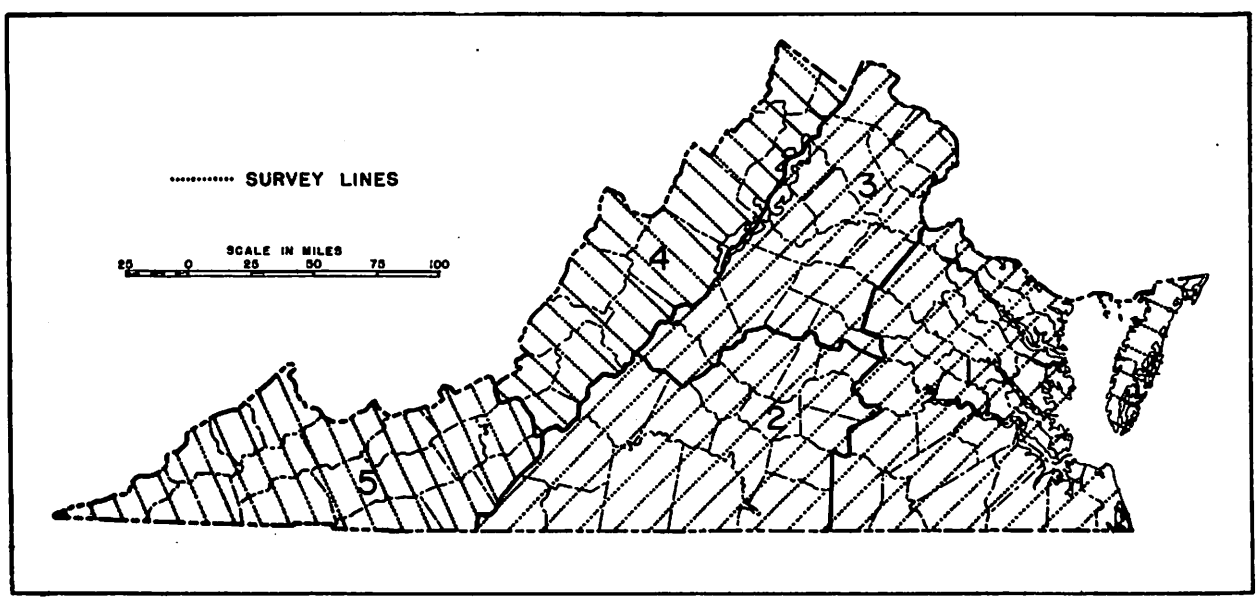



FIGURE 1 — APPROXIMATE LOCATION OF SURVEY LINES IN VIRGINIA

included a brief description of the stand, and a tally of the species, number, and sizes of all trees one inch and larger in diameter at breast height.

This procedure provides an accurate description of each forest plot, and a dependable measure of commercial concentration over large areas, but ignores many local concentrations which, by nature of the sampling technique, could not be studied. Consequently, the maps are not reliable for locating timber on small ownerships.

On each map, the total volume in sound trees is shown by diameter class for each Survey unit, and for the State. The volume of under-sawlog-size material (softwoods 5.0-9.9 inches and hardwoods 5.0-13.0 inches in diameter) is shown in cords, and the volume of saw timber in board feet as measured by the International $\frac{1}{4}$-inch rule, a close approximation to green lumber tally.

On the maps showing the distribution of loblolly, shortleaf, and Virginia pines, each dot represents a plot upon which the indicated species predominates. For example, on the map (page 24) for loblolly pine, each dot locates a plot in the loblolly pine type, in which loblolly pine is the predominant species. Other species may occur, but not in sufficient number to influence the type classification.

Maps for species other than loblolly, shortleaf, and Virginia pines show the occurrence of specified minimum sizes of the designated species. Each dot on the map for white pine (page 27), for example, represents a plot on which there was at least one sound white pine 16.0 inches or larger in diameter. Since the minimum size is not constant for all species, each map bears its own legend showing the class of material plotted on it.

## THE FORESTS OF VIRGINIA

### Species

Excluding 235,900 acres of public forest area reserved from cutting, and 184,400 acres of non-commercial land incapable of producing merchantable timber, the forests of Virginia occupy over 14 million acres, 56 percent of the total land area. Loblolly pine is the most abundant species, aggregating over seven billion board feet of merchantable volume, 29 percent of the total for all species, and dominating the forest area over much of the Coastal Plain. Shortleaf pine, second in abundance, occurs throughout the State, but predominates only in the Piedmont. Even here, to the north and west it gives way to the less desirable but more aggressive Virginia pine, the third ranking softwood.

Over most of the area a great variety of hardwoods are mixed with the pines, and constitute nearly half of the total board-foot volume. Sweetgum and black tupelo, with 76 percent of their volume in the Coastal Plain, are second only to the widely distributed oaks which comprise nearly six billion board feet, and yellowpoplar, two billion board feet. In sound chestnut, confined to the mountains and foothills, there are

three-quarters of a billion feet of saw timber, and an additional six million cords of non-sawtimber material.

## Forest Types

The hardwood types, extending over 8.2 million acres, 57 percent of the total forest area, are concentrated in the northern Piedmont and mountains, where they dominate respectively 62 and 77 percent of the forest. The upland hardwood type, covering a wide variety of hardwood species in mixture, occupies nearly seven million acres, or about 46 percent of the total forest area. While nearly half of this is in the mountain units, the type is found throughout the State. Even in the predominantly pine Coastal Plain, it extends over 23 percent of the forest, and is secondary only to the loblolly pine type. The bottomland hardwood type, found chiefly in the swamps and river bottoms of the Coastal Plain, and the cove and northern hardwoods of the mountains and foothills comprise the remaining 1.5 million acres of hardwood forest.

Among the pine types, extending over 6.2 million acres, the loblolly pine, confined to the Coastal Plain, and the shortleaf and Virginia pine types, concentrated in the Piedmont, each occupy about two million acres. The less extensive white pine and hemlock types of the mountains occupy only 236,100 acres.

## Forest Conditions

Although less than three percent of the forest area is characterized by old-growth timber, over seven million acres bear sawlog-size stands ranging in volume from an average of 1,300 board feet per acre for the shortleaf pine type in the northern mountains to over 5,500 board feet per acre for the comparatively dense loblolly pine stands of the Coastal Plain. Over three million acres, 42 percent, of this total is in the upland hardwood type, averaging 2,440 board feet per acre.

Of the 6.6 million acres in the under-sawlog-size stands, 53 percent is in the upland hardwood type, and nearly 16 percent in the Virginia pine type. The Coastal Plain contains the lowest proportionate area, 33 percent, in these young stands. Only 703,900 acres were classified as reproduction, more than half of which is located in the Piedmont. No areas were classified as clearcut, but the stocking over much of the area is very low, probably not averaging over 45-50 percent of the volume desirable under reasonable forest productivity.

DISTRIBUTION MAPS OF COMMERCIAL FOREST TREES

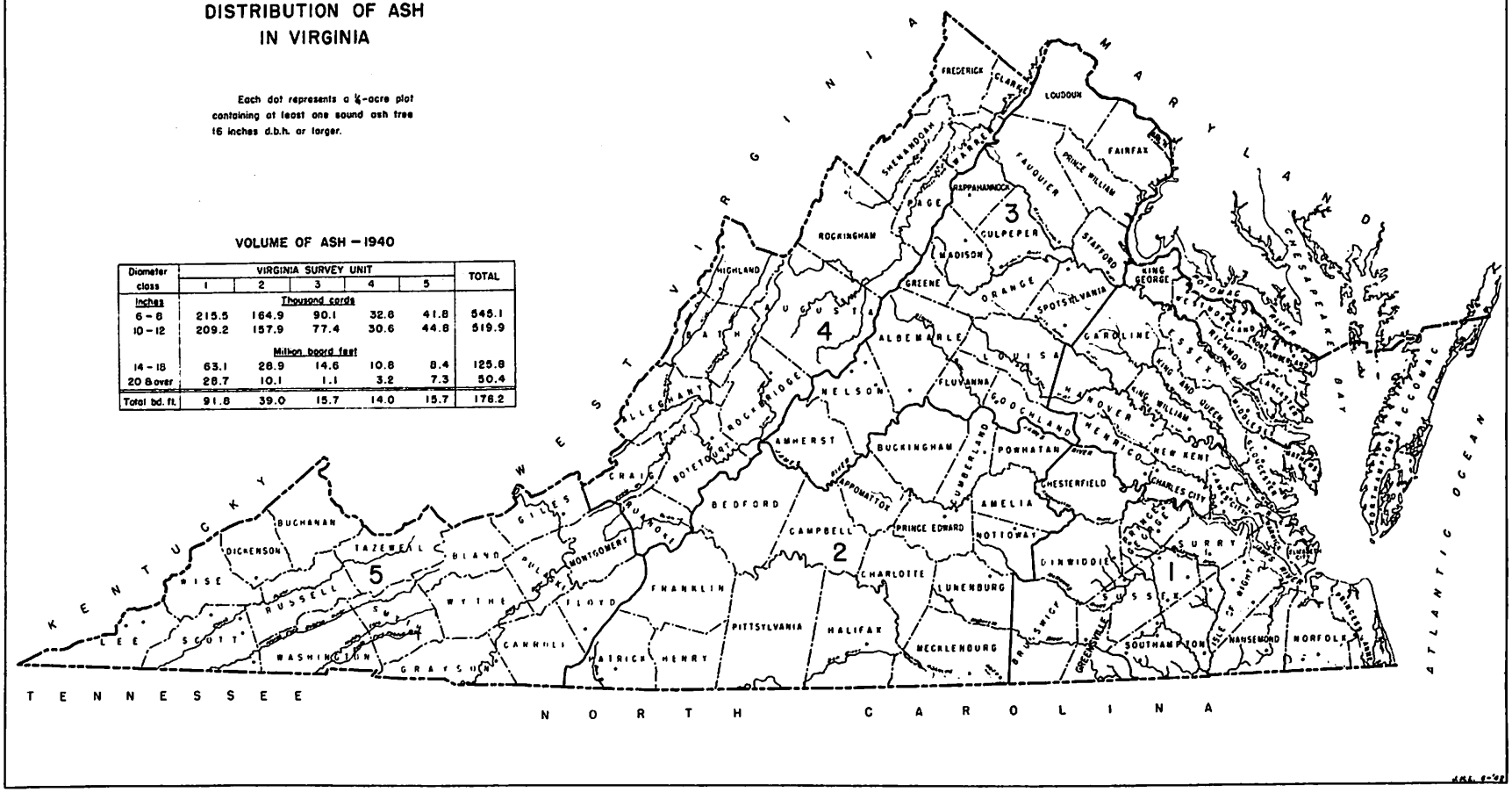
| Map | Tree species included |
|---|---|
| Ash | Ash |
| Basswood | Basswood |
| Beech | Beech |
| Birch | Black, yellow, and river birch |
| Black locust | Black locust |
| Black tupelo | Black and water tupelo |
| Chestnut | Chestnut |
| Cypress | Baldcypress and pondcypress |
| Hemlock | Hemlock |
| Hickory | Bitternut, water, shagbark, mockernut, and pignut hickory |
| Maple, red | Red maple, silver maple, and box elder |
| Maple, sugar | Sugar maple |
| Oak, chestnut | Chestnut oak |
| Oak, northern red | Northern red oak |
| Oak, post | Post oak and overcup oak |
| Oak, red | Black, scarlet, pin, water, willow, and southern red oak |
| Oak, white | White oak, and swamp chestnut oak |
| Pine, loblolly | Loblolly pine |
| Pine, shortleaf | Shortleaf, pitch, and table mountain pine |
| Pine, Virginia | Virginia pine |
| Pine, white | White pine |
| Redcedar | Eastern redcedar |
| Sweetgum | Sweetgum |
| Yellowpoplar | Yellowpoplar |

# DISTRIBUTION OF ASH IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound ash tree 16 inches d.b.h. or larger.

## VOLUME OF ASH — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 215.5 | 164.9 | 90.1 | 32.8 | 41.8 | 545.1 |
| 10 – 12 | 209.2 | 157.9 | 77.4 | 30.6 | 44.8 | 519.9 |
| | Million board feet | | | | | |
| 14 – 18 | 63.1 | 28.9 | 14.6 | 10.8 | 8.4 | 125.8 |
| 20 & over | 28.7 | 10.1 | 1.1 | 3.2 | 7.3 | 50.4 |
| Total bd. ft. | 91.8 | 39.0 | 15.7 | 14.0 | 15.7 | 176.2 |

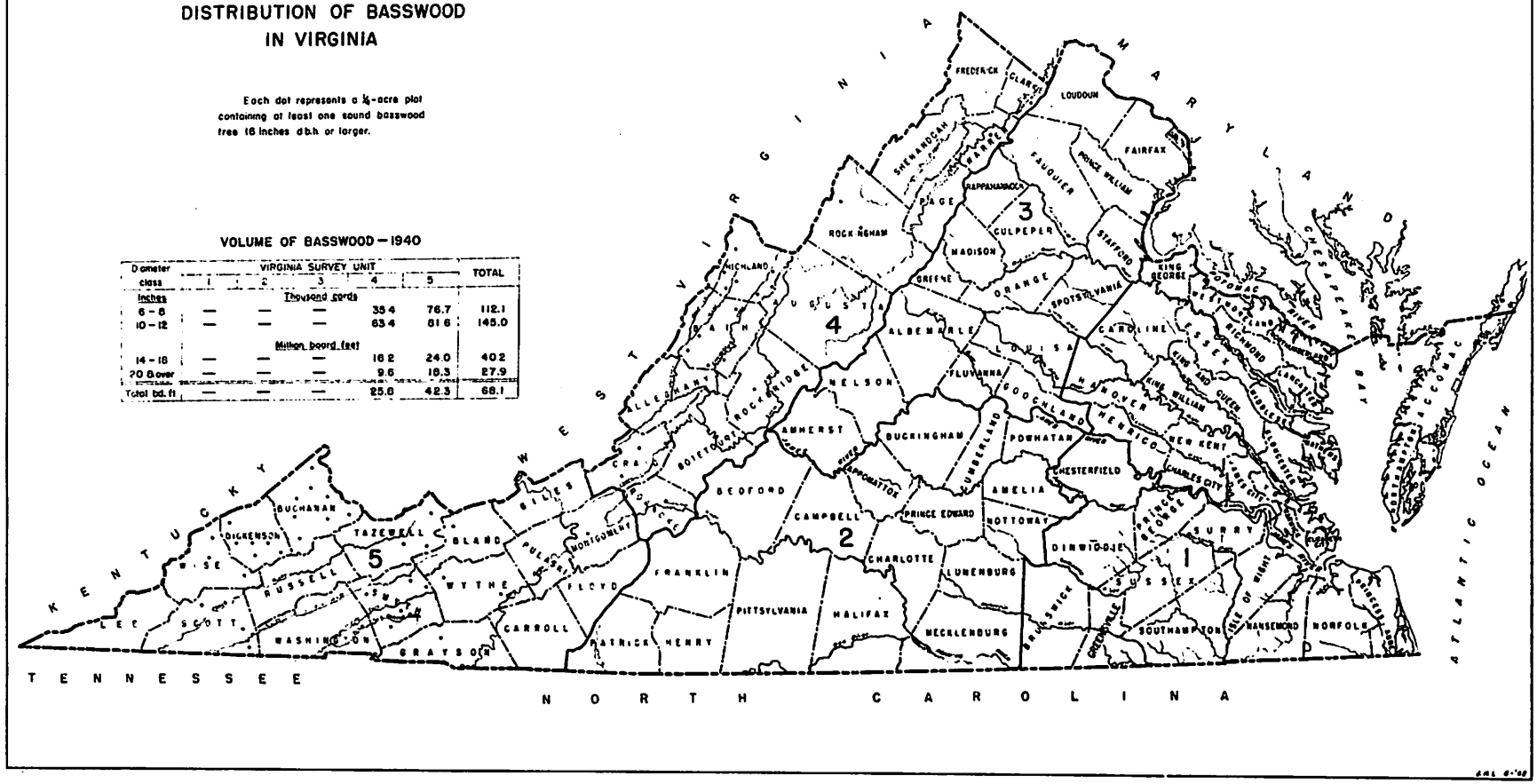


# DISTRIBUTION OF BASSWOOD IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound basswood tree 16 inches d.b.h. or larger.

## VOLUME OF BASSWOOD — 1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | | | Thousand cords | | | |
| 6 – 8 | — | — | — | 35.4 | 76.7 | 112.1 |
| 10 – 12 | — | — | — | 63.4 | 81.6 | 145.0 |
| | | | Million board feet | | | |
| 14 – 18 | — | — | — | 16.2 | 24.0 | 40.2 |
| 20 & over | — | — | — | 9.6 | 18.3 | 27.9 |
| Total bd. ft | — | — | — | 25.8 | 42.3 | 68.1 |

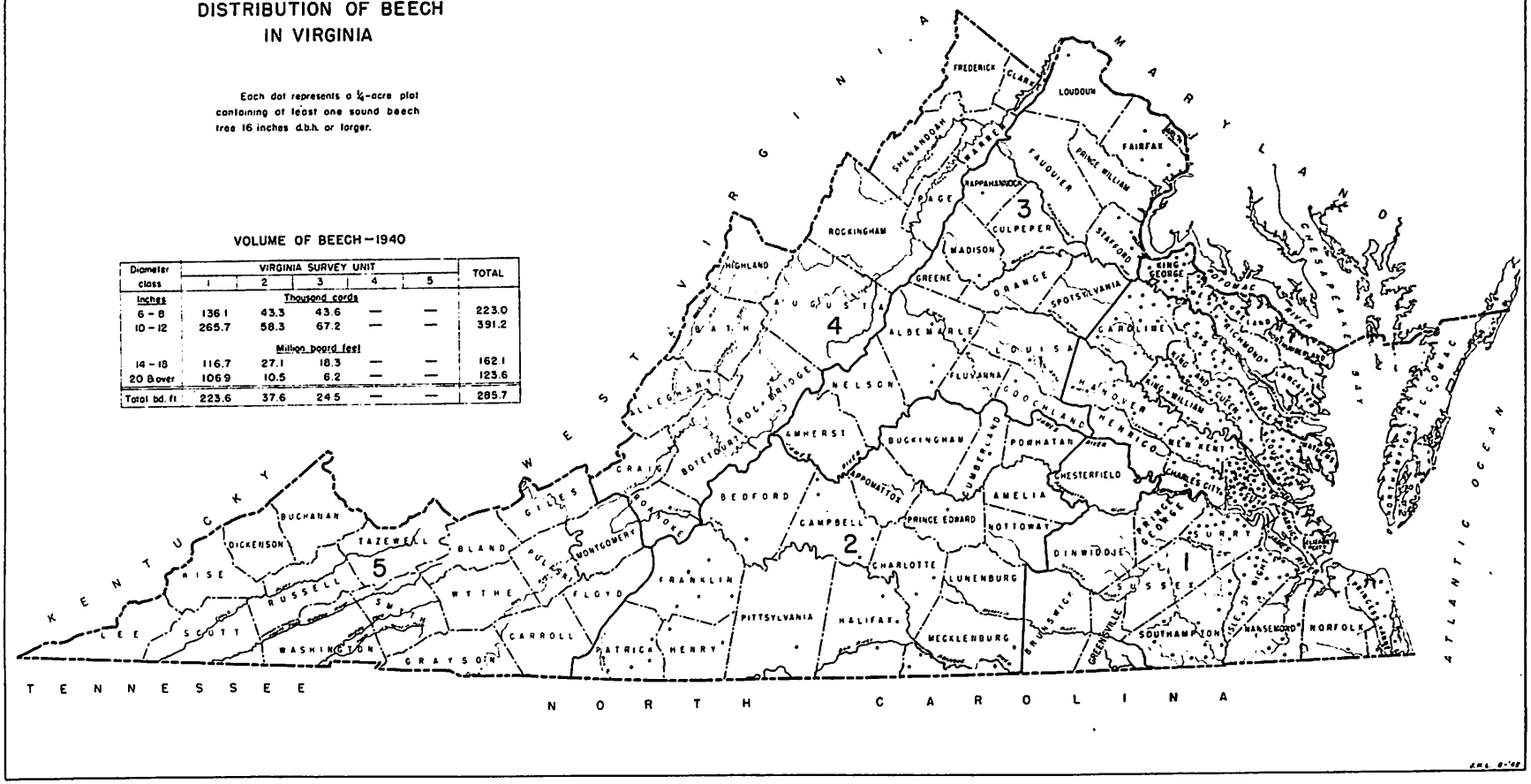


# DISTRIBUTION OF BEECH IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound beech tree 16 inches d.b.h. or larger.

## VOLUME OF BEECH—1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | Thousand cords | | | | | |
| 6 – 8 | 136.1 | 43.3 | 43.6 | — | — | 223.0 |
| 10 – 12 | 265.7 | 58.3 | 67.2 | — | — | 391.2 |
| | Million board feet | | | | | |
| 14 – 18 | 116.7 | 27.1 | 18.3 | — | — | 162.1 |
| 20 & over | 106.9 | 10.5 | 6.2 | — | — | 123.6 |
| Total bd. ft | 223.6 | 37.6 | 24.5 | — | — | 285.7 |

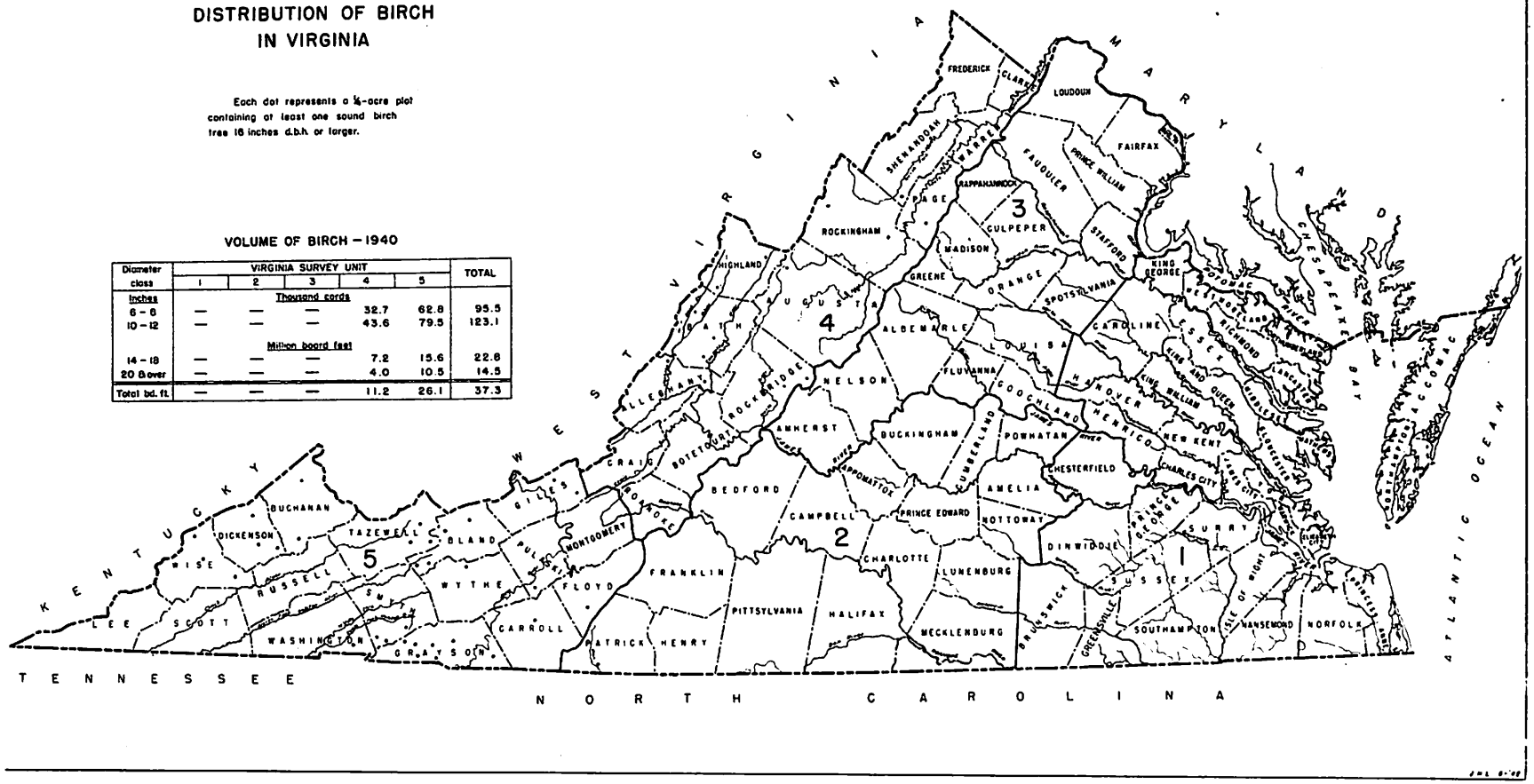


# DISTRIBUTION OF BIRCH IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound birch tree 16 inches d.b.h. or larger.

## VOLUME OF BIRCH — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | — | — | 32.7 | 62.8 | 95.5 |
| 10 – 12 | — | — | — | 43.6 | 79.5 | 123.1 |
| | Million board feet | | | | | |
| 14 – 18 | — | — | — | 7.2 | 15.6 | 22.8 |
| 20 &over | — | — | — | 4.0 | 10.5 | 14.5 |
| Total bd. ft. | — | — | — | 11.2 | 26.1 | 37.3 |

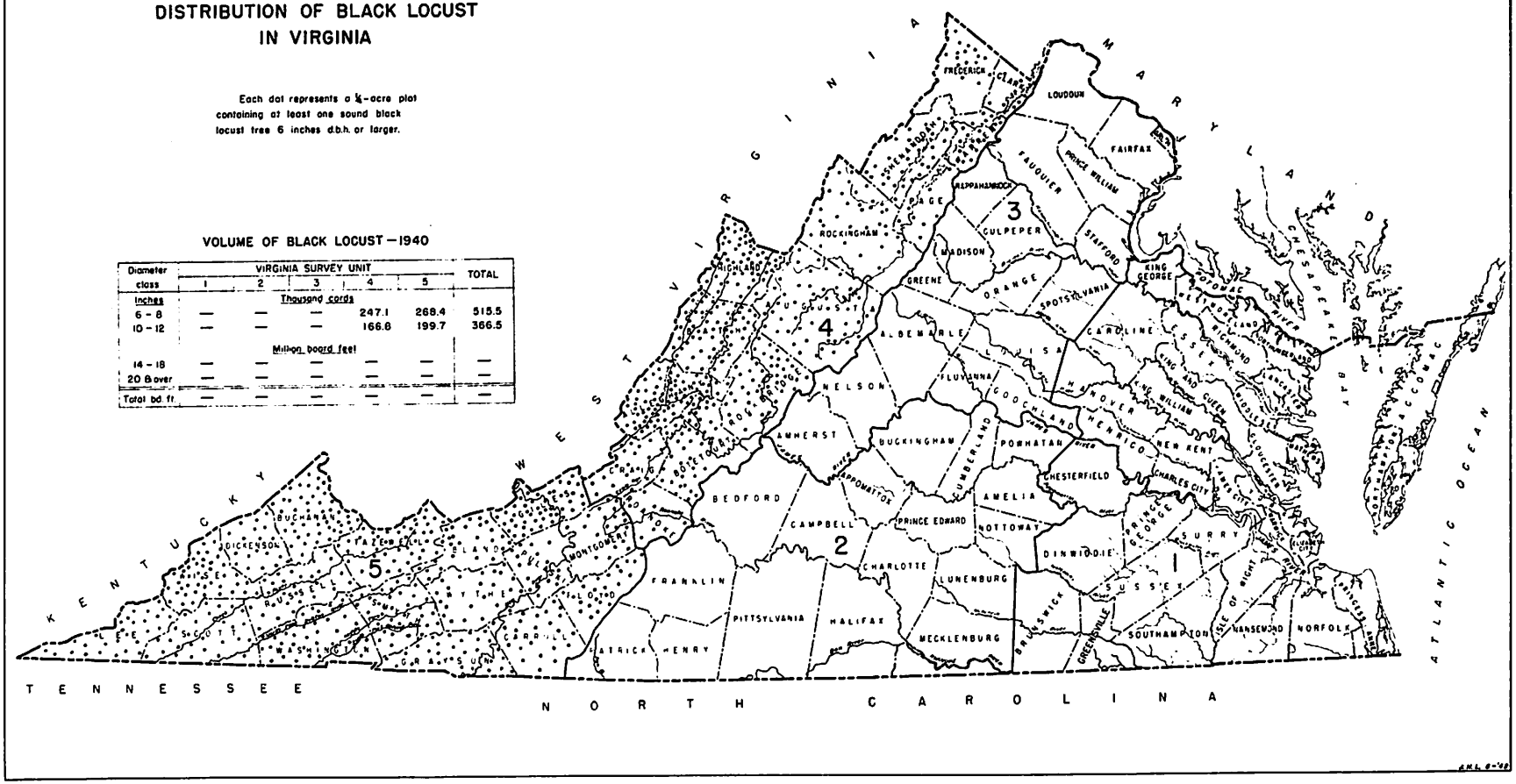


# DISTRIBUTION OF BLACK LOCUST IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound black locust tree 6 inches d.b.h. or larger.

## VOLUME OF BLACK LOCUST—1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | Thousand cords | | | | | |
| 6 - 8 | — | — | — | 247.1 | 268.4 | 515.5 |
| 10 - 12 | — | — | — | 166.8 | 199.7 | 366.5 |
| | Million board feet | | | | | |
| 14 - 18 | — | — | — | — | — | — |
| 20 & over | — | — | — | — | — | — |
| Total bd. ft. | — | — | — | — | — | — |

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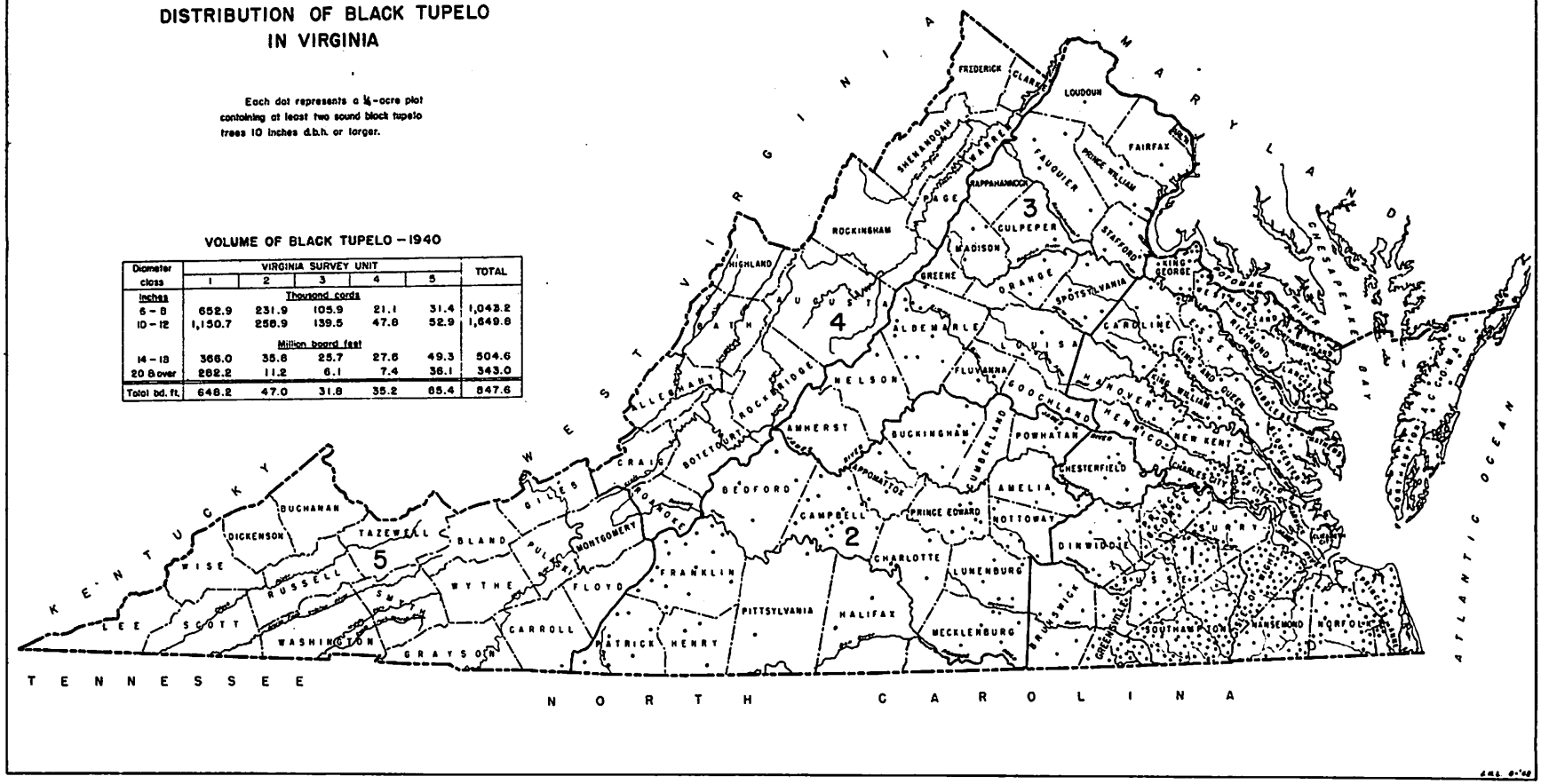
# DISTRIBUTION OF BLACK TUPELO IN VIRGINIA

Each dot represents a ¼-acre plot containing at least two sound black tupelo trees 10 inches d.b.h. or larger.

## VOLUME OF BLACK TUPELO – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 652.9 | 231.9 | 105.9 | 21.1 | 31.4 | 1,043.2 |
| 10 – 12 | 1,150.7 | 256.9 | 139.5 | 47.8 | 52.9 | 1,649.8 |
| | Million board feet | | | | | |
| 14 – 18 | 366.0 | 35.8 | 25.7 | 27.6 | 49.3 | 504.6 |
| 20 & over | 282.2 | 11.2 | 6.1 | 7.4 | 36.1 | 343.0 |
| Total bd. ft. | 648.2 | 47.0 | 31.8 | 35.2 | 85.4 | 847.6 |

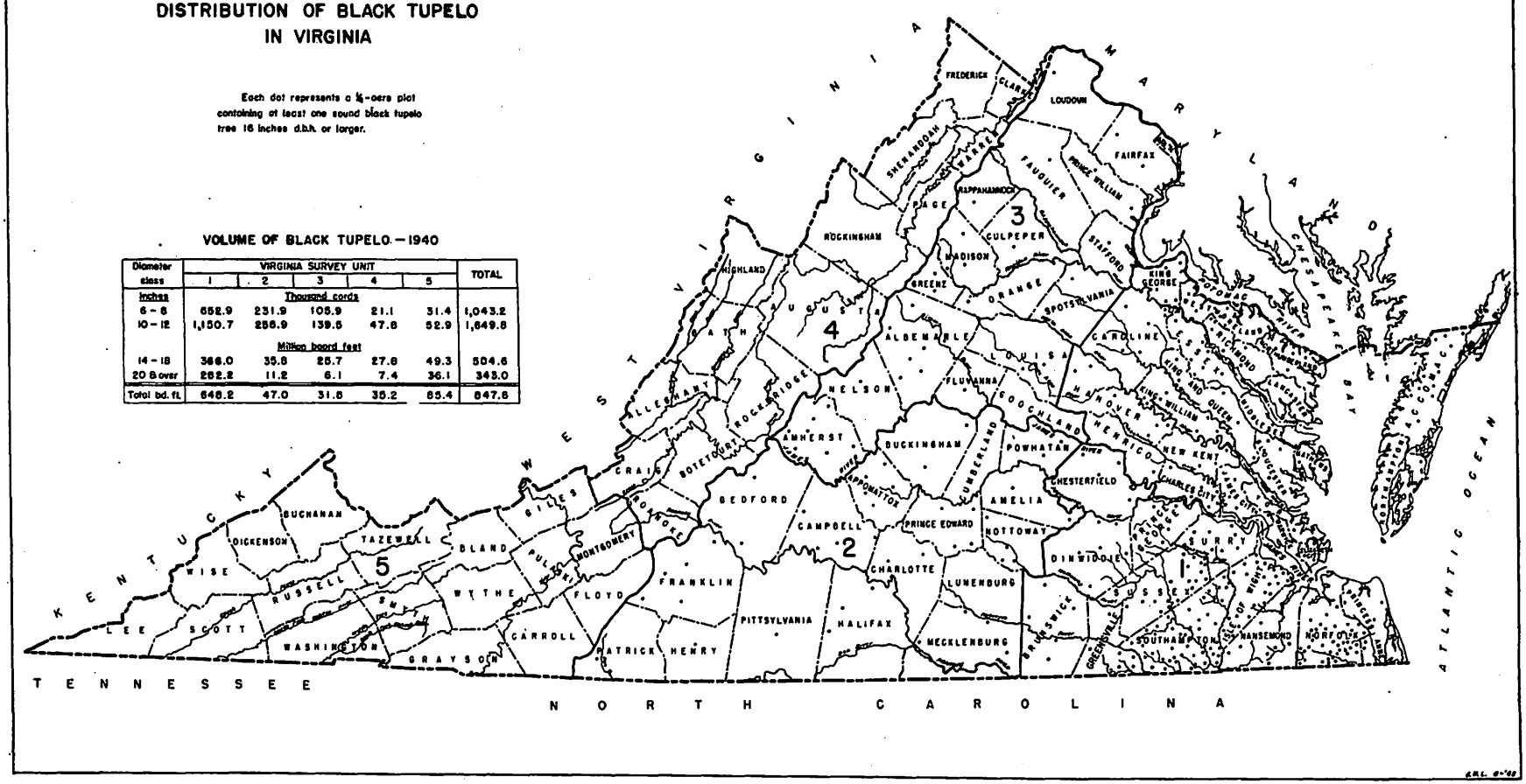


# DISTRIBUTION OF BLACK TUPELO IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound black tupelo tree 16 inches d.b.h. or larger.

## VOLUME OF BLACK TUPELO — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 652.9 | 231.9 | 105.9 | 21.1 | 31.4 | 1,043.2 |
| 10 – 12 | 1,150.7 | 256.9 | 139.5 | 47.8 | 52.9 | 1,649.8 |
| | Million board feet | | | | | |
| 14 – 18 | 366.0 | 35.8 | 25.7 | 27.8 | 49.3 | 504.6 |
| 20 & over | 282.2 | 11.2 | 6.1 | 7.4 | 36.1 | 343.0 |
| Total bd. ft. | 648.2 | 47.0 | 31.8 | 35.2 | 85.4 | 847.6 |

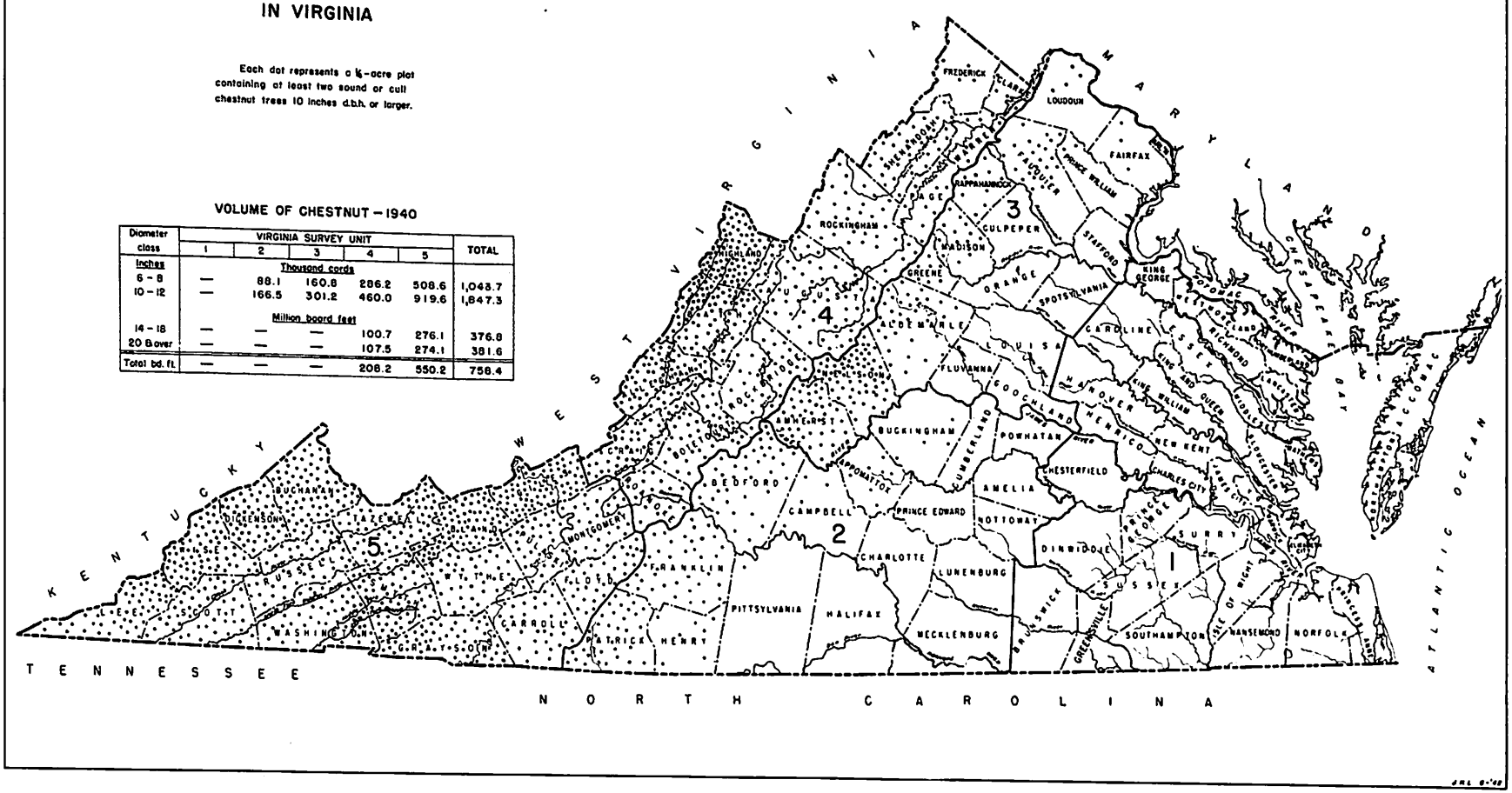


# DISTRIBUTION OF CHESTNUT IN VIRGINIA

Each dot represents a ¼-acre plot containing at least two sound or cull chestnut trees 10 inches d.b.h. or larger.

## VOLUME OF CHESTNUT – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | 88.1 | 160.8 | 286.2 | 508.6 | 1,043.7 |
| 10 – 12 | — | 166.5 | 301.2 | 460.0 | 919.6 | 1,847.3 |
| | Million board feet | | | | | |
| 14 – 18 | — | — | — | 100.7 | 276.1 | 376.8 |
| 20 & over | — | — | — | 107.5 | 274.1 | 381.6 |
| Total bd. ft. | — | — | — | 208.2 | 550.2 | 758.4 |

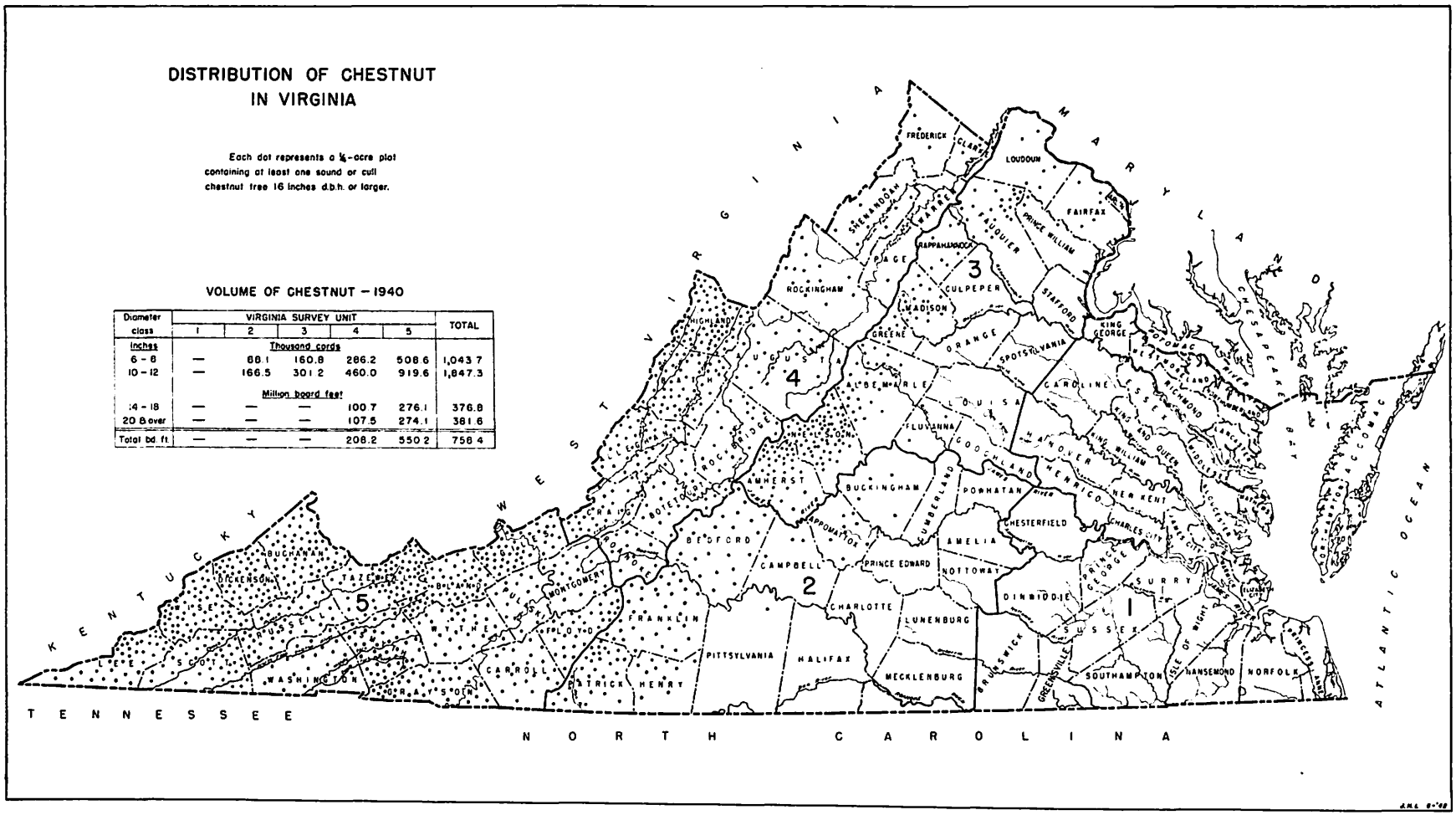


# DISTRIBUTION OF CHESTNUT IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound or cull chestnut tree 16 inches d.b.h. or larger.

## VOLUME OF CHESTNUT – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | 88.1 | 160.8 | 286.2 | 508.6 | 1,043.7 |
| 10 – 12 | — | 166.5 | 301.2 | 460.0 | 919.6 | 1,847.3 |
| | Million board feet | | | | | |
| 14 – 18 | — | — | — | 100.7 | 276.1 | 376.8 |
| 20 & over | — | — | — | 107.5 | 274.1 | 381.6 |
| Total bd. ft. | — | — | — | 208.2 | 550.2 | 758.4 |

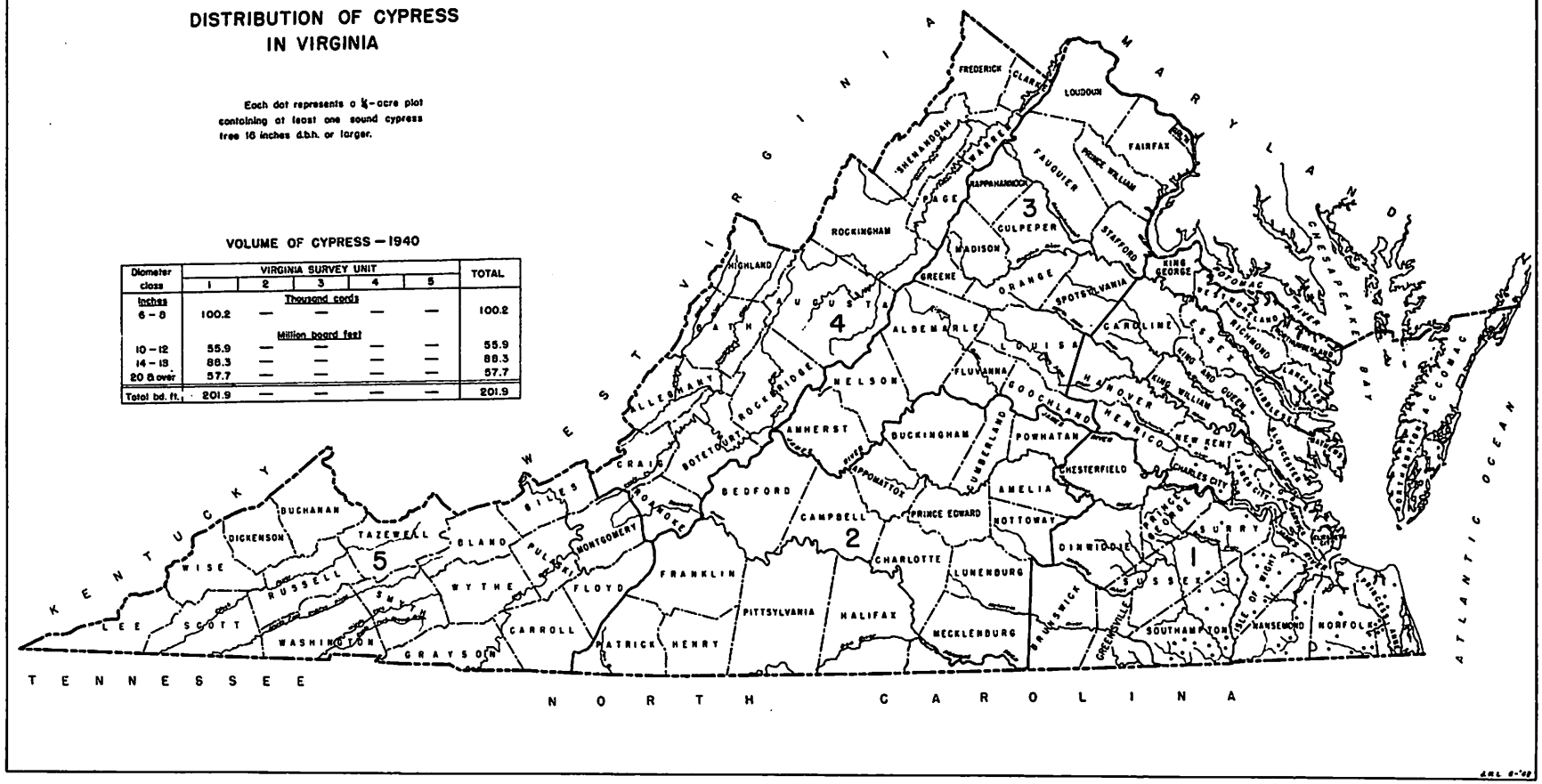


# DISTRIBUTION OF CYPRESS IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound cypress tree 16 inches d.b.h. or larger.

## VOLUME OF CYPRESS — 1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | Thousand cords | | | | | |
| 6 – 8 | 100.2 | — | — | — | — | 100.2 |
| | Million board feet | | | | | |
| 10 – 12 | 55.9 | — | — | — | — | 55.9 |
| 14 – 18 | 88.3 | — | — | — | — | 88.3 |
| 20 & over | 57.7 | — | — | — | — | 57.7 |
| Total bd. ft. | 201.9 | — | — | — | — | 201.9 |

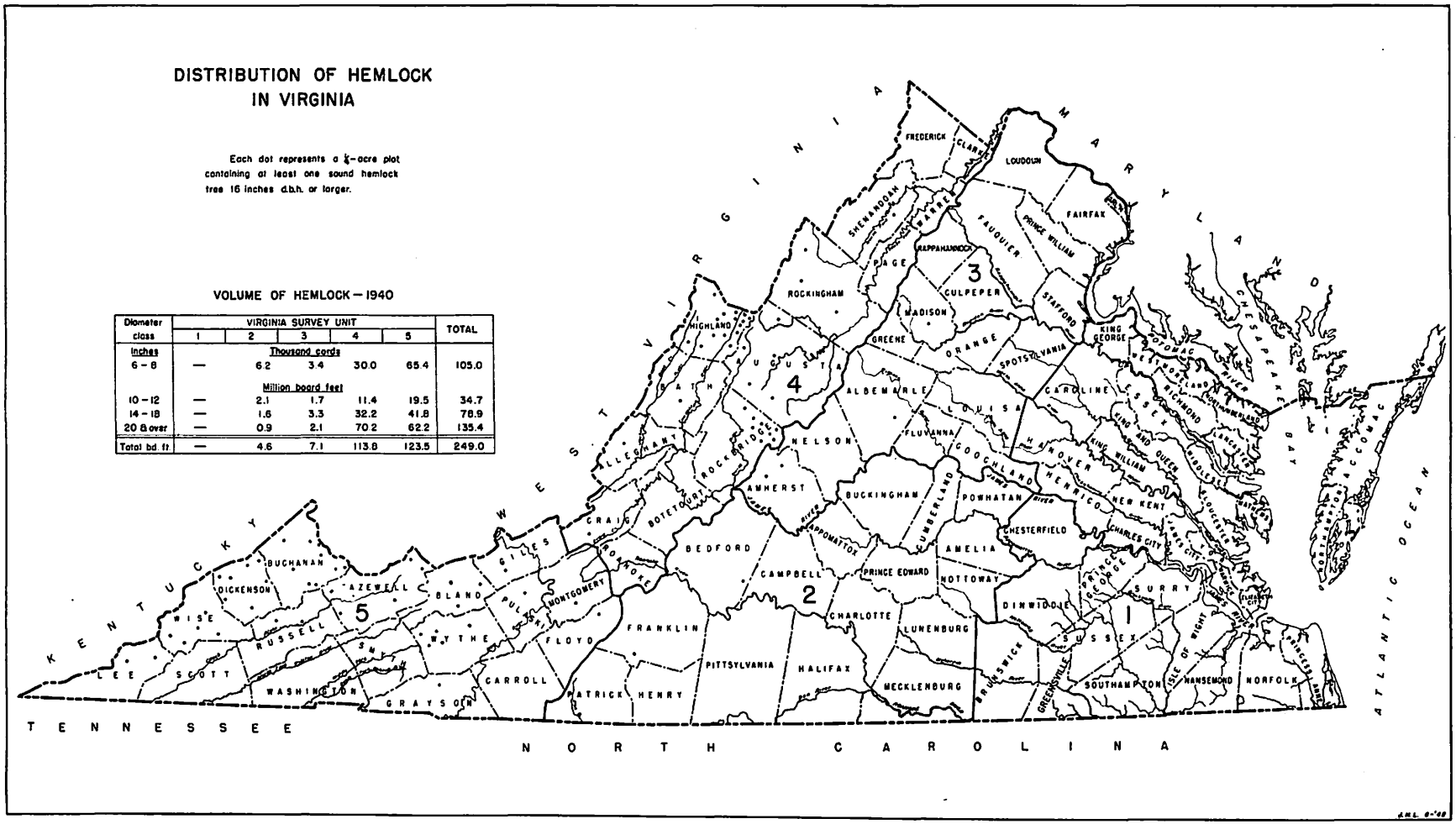


# DISTRIBUTION OF HEMLOCK IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound hemlock tree 16 inches d.b.h. or larger.

## VOLUME OF HEMLOCK — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | 6.2 | 3.4 | 30.0 | 65.4 | 105.0 |
| | Million board feet | | | | | |
| 10 – 12 | — | 2.1 | 1.7 | 11.4 | 19.5 | 34.7 |
| 14 – 18 | — | 1.6 | 3.3 | 32.2 | 41.8 | 78.9 |
| 20 & over | — | 0.9 | 2.1 | 70.2 | 62.2 | 135.4 |
| Total bd. ft. | — | 4.6 | 7.1 | 113.8 | 123.5 | 249.0 |

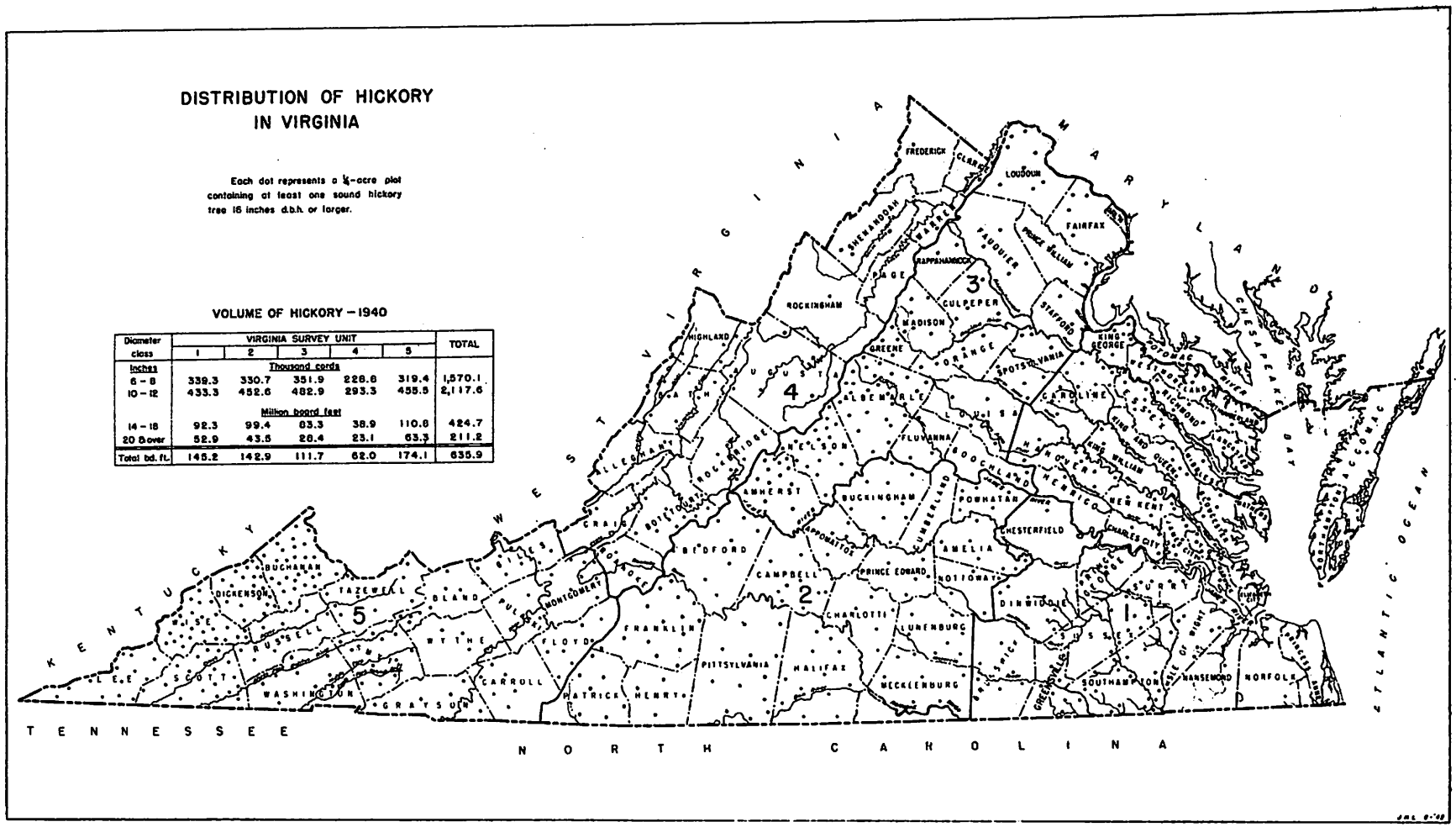


# DISTRIBUTION OF HICKORY IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound hickory tree 16 inches d.b.h. or larger.

## VOLUME OF HICKORY – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 339.3 | 330.7 | 351.9 | 228.8 | 319.4 | 1,570.1 |
| 10 – 12 | 433.3 | 452.6 | 482.9 | 293.3 | 455.5 | 2,117.6 |
| | Million board feet | | | | | |
| 14 – 18 | 92.3 | 99.4 | 83.3 | 38.9 | 110.8 | 424.7 |
| 20 & over | 52.9 | 43.5 | 28.4 | 23.1 | 63.3 | 211.2 |
| Total bd. ft. | 145.2 | 142.9 | 111.7 | 62.0 | 174.1 | 635.9 |

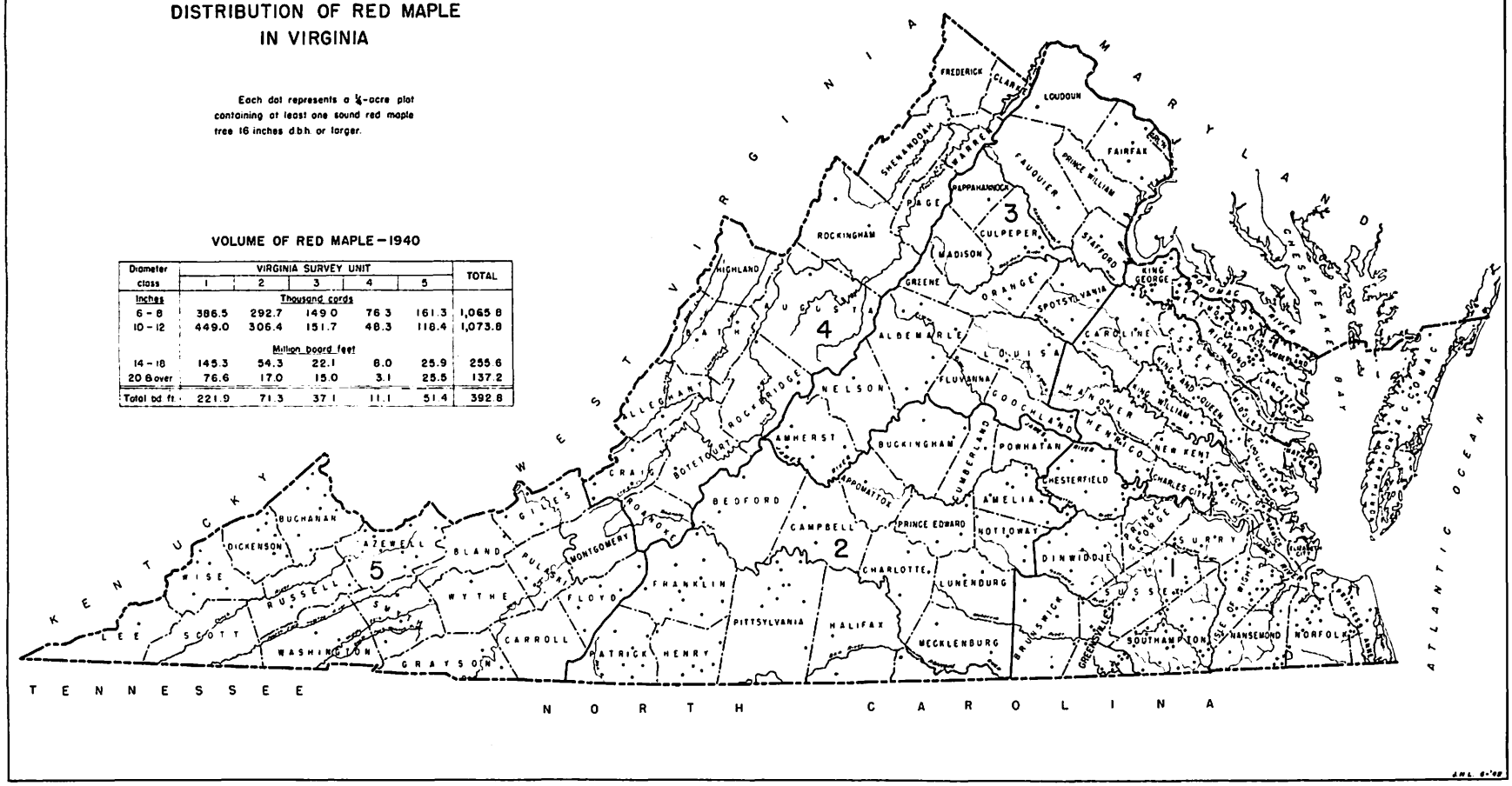


# DISTRIBUTION OF RED MAPLE IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound red maple tree 16 inches d.b.h. or larger.

## VOLUME OF RED MAPLE—1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | Thousand cords | | | | | |
| 6 - 8 | 386.5 | 292.7 | 149.0 | 76.3 | 161.3 | 1,065.8 |
| 10 - 12 | 449.0 | 306.4 | 151.7 | 48.3 | 118.4 | 1,073.8 |
| | Million board feet | | | | | |
| 14 - 16 | 145.3 | 54.3 | 22.1 | 6.0 | 25.9 | 255.6 |
| 20 & over | 76.6 | 17.0 | 15.0 | 3.1 | 25.5 | 137.2 |
| Total bd ft. | 221.9 | 71.3 | 37.1 | 11.1 | 51.4 | 392.8 |

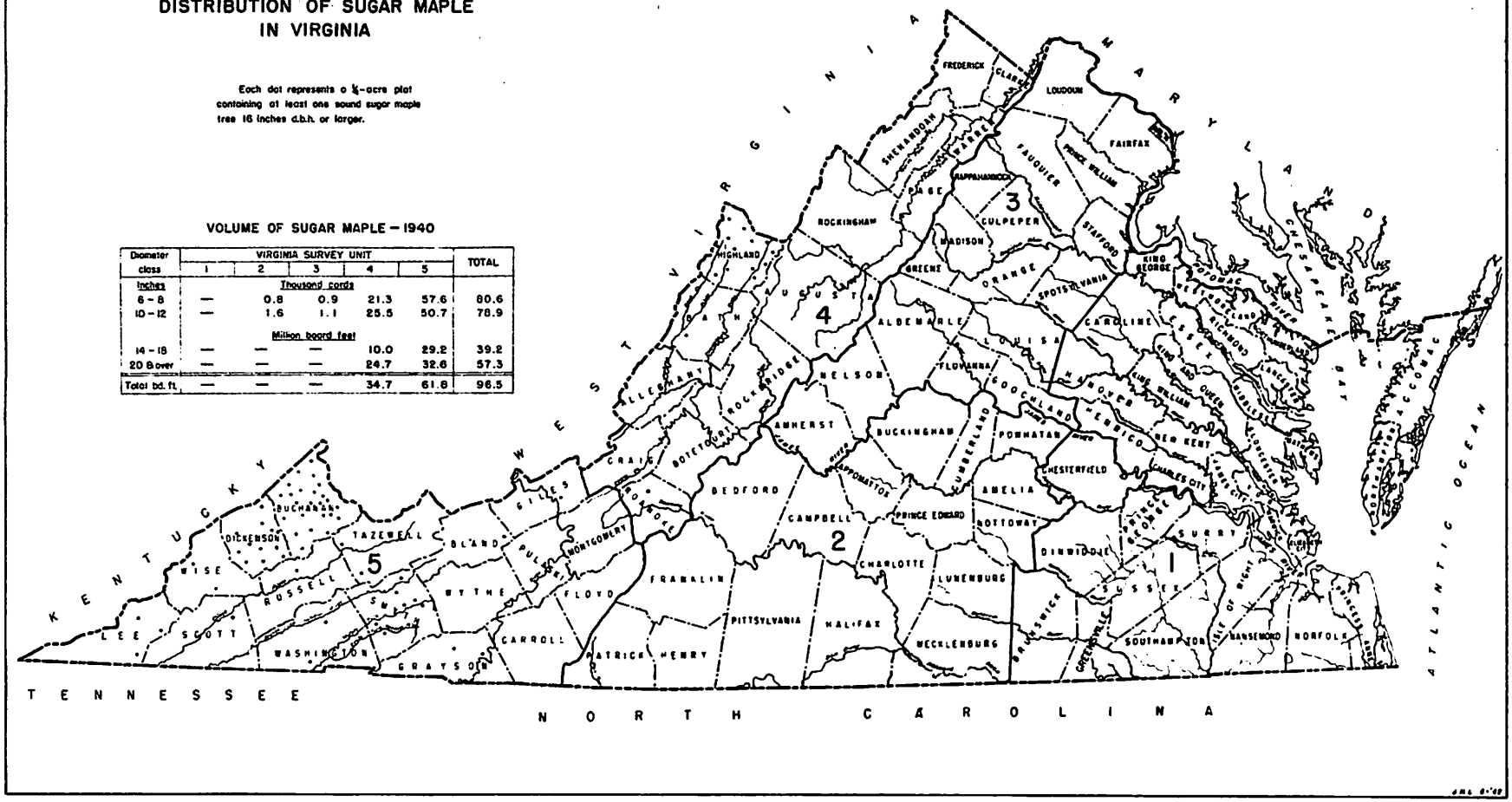


## DISTRIBUTION OF SUGAR MAPLE IN VIRGINIA

Each dot represents a ½-acre plot containing at least one sound sugar maple tree 16 inches d.b.h. or larger.

### VOLUME OF SUGAR MAPLE — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | 0.8 | 0.9 | 21.3 | 57.6 | 80.6 |
| 10 – 12 | — | 1.6 | 1.1 | 25.5 | 50.7 | 78.9 |
| | Million board feet | | | | | |
| 14 – 18 | — | — | — | 10.0 | 29.2 | 39.2 |
| 20 & over | — | — | — | 24.7 | 32.6 | 57.3 |
| Total bd. ft. | — | — | — | 34.7 | 61.8 | 96.5 |

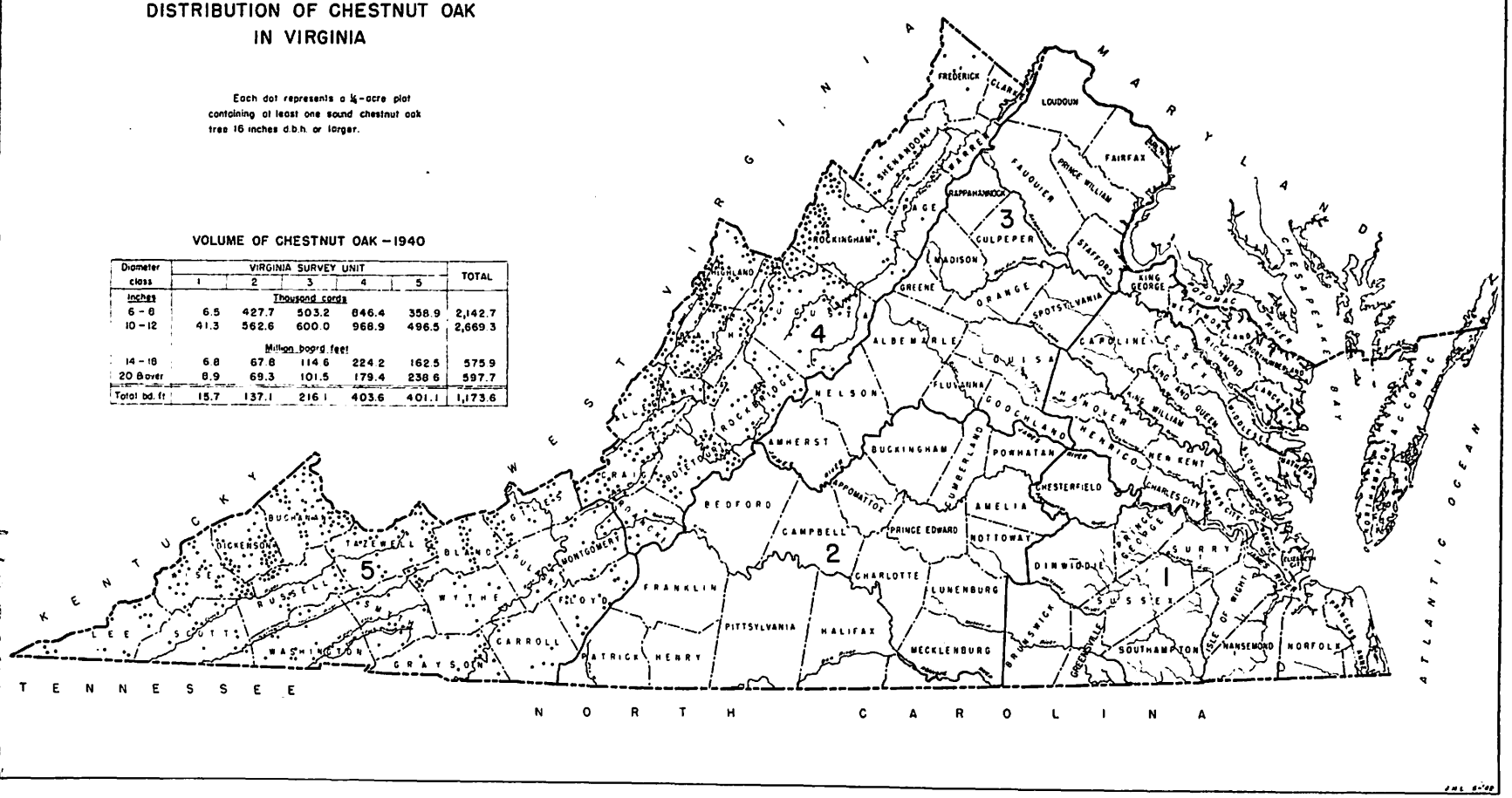


# DISTRIBUTION OF CHESTNUT OAK IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound chestnut oak tree 16 inches d.b.h. or larger.

## VOLUME OF CHESTNUT OAK – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| inches | Thousand cords | | | | | |
| 6 – 8 | 6.5 | 427.7 | 503.2 | 846.4 | 358.9 | 2,142.7 |
| 10 – 12 | 41.3 | 562.6 | 600.0 | 968.9 | 496.5 | 2,669.3 |
| | Million board feet | | | | | |
| 14 – 18 | 6.8 | 67.8 | 114.6 | 224.2 | 162.5 | 575.9 |
| 20.8 over | 8.9 | 69.3 | 101.5 | 179.4 | 238.6 | 597.7 |
| Total bd. ft | 15.7 | 137.1 | 216.1 | 403.6 | 401.1 | 1,173.6 |

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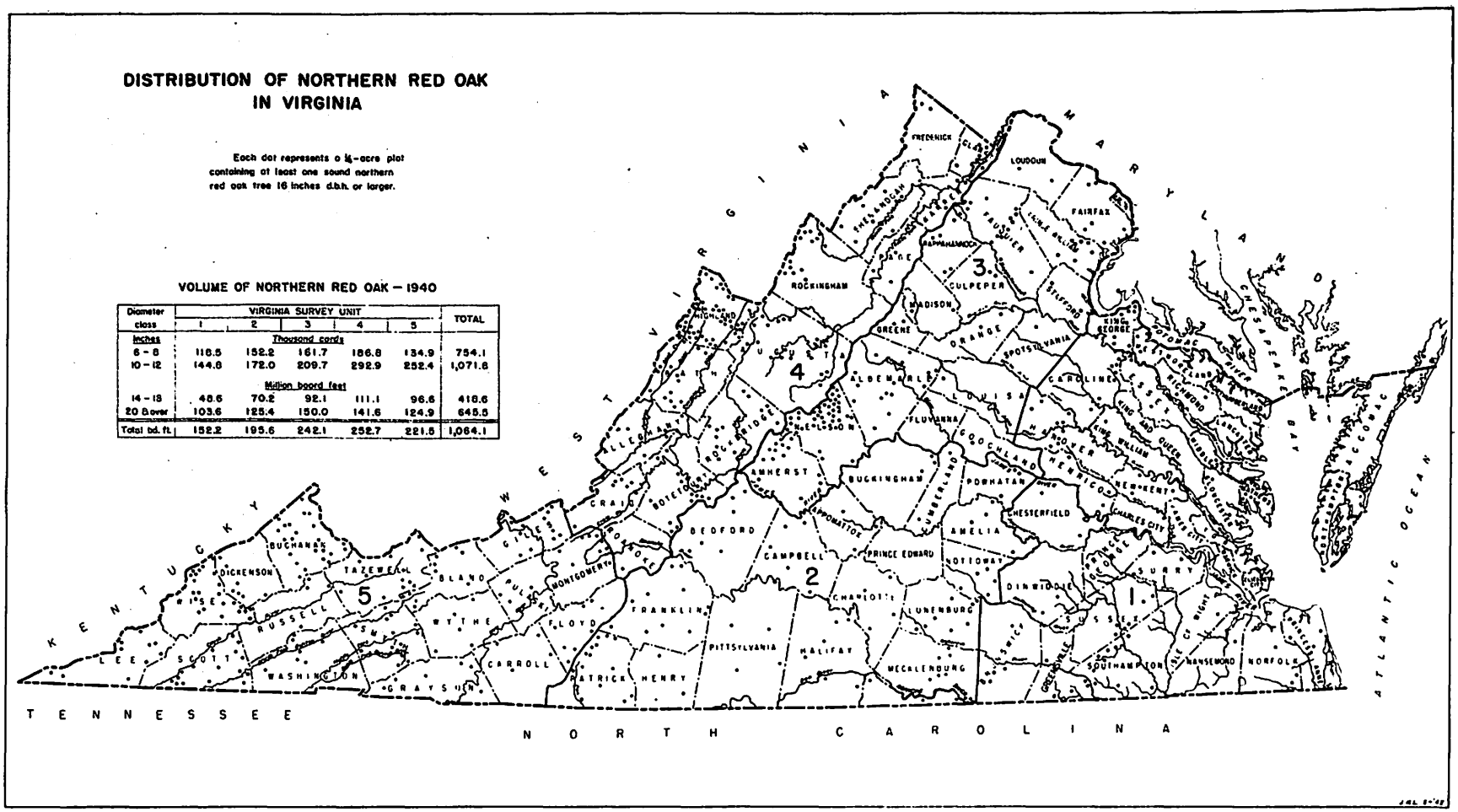
# DISTRIBUTION OF NORTHERN RED OAK IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound northern red oak tree 16 inches d.b.h. or larger.

## VOLUME OF NORTHERN RED OAK — 1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| Inches | Thousand cords | | | | | |
| 6 – 8 | 118.5 | 152.2 | 161.7 | 186.8 | 134.9 | 754.1 |
| 10 – 12 | 144.6 | 172.0 | 209.7 | 292.9 | 252.4 | 1,071.6 |
| | Million board feet | | | | | |
| 14 – 18 | 48.6 | 70.2 | 92.1 | 111.1 | 96.6 | 418.6 |
| 20 &over | 103.6 | 125.4 | 150.0 | 141.6 | 124.9 | 645.5 |
| Total bd. ft. | 152.2 | 195.6 | 242.1 | 252.7 | 221.5 | 1,064.1 |

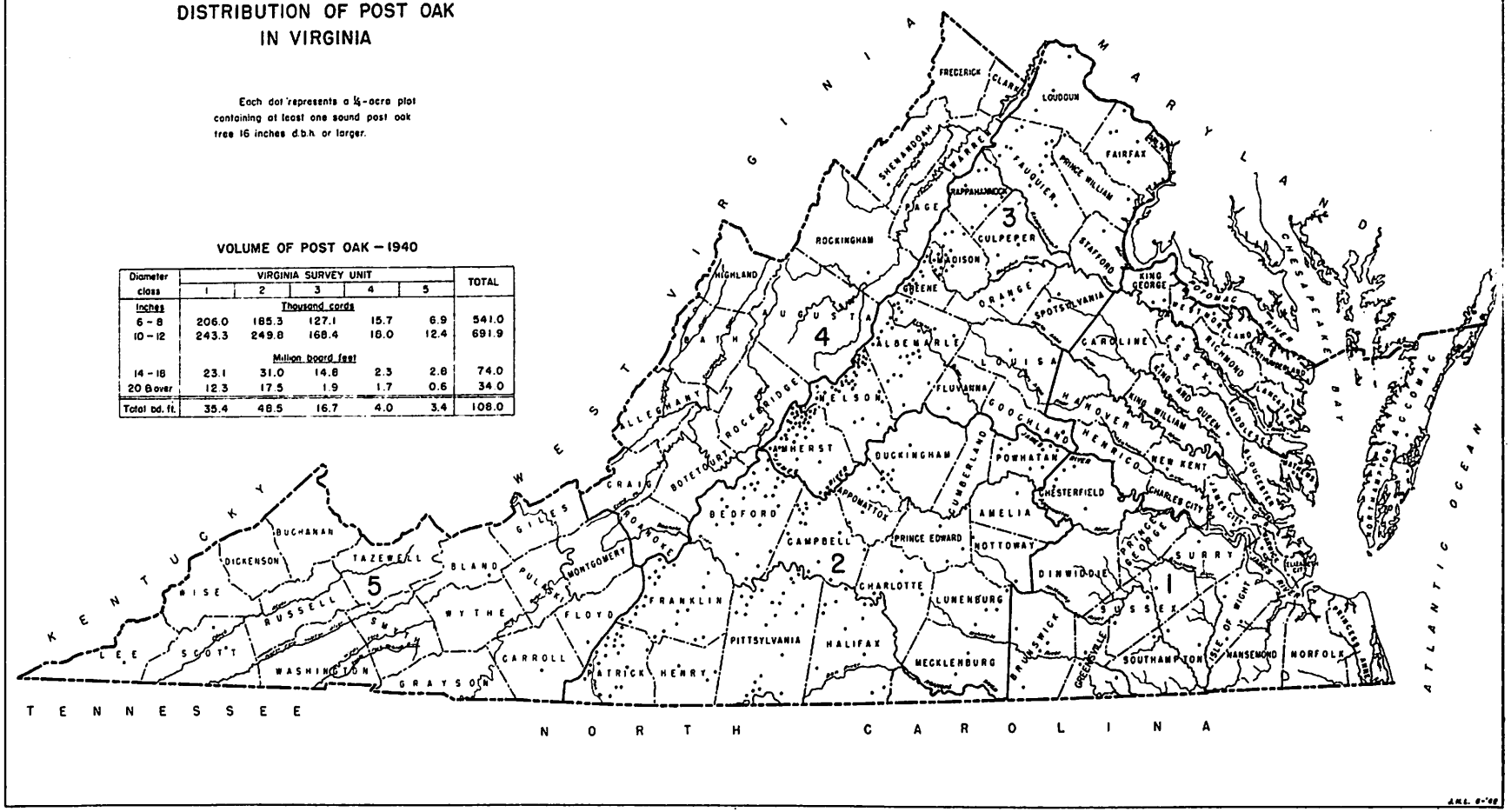


# DISTRIBUTION OF POST OAK IN VIRGINIA

Each dot represents a ½-acre plot containing at least one sound post oak tree 16 inches d.b.h. or larger.

## VOLUME OF POST OAK — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 206.0 | 185.3 | 127.1 | 15.7 | 6.9 | 541.0 |
| 10 – 12 | 243.3 | 249.8 | 168.4 | 16.0 | 12.4 | 691.9 |
| | Million board feet | | | | | |
| 14 – 16 | 23.1 | 31.0 | 14.8 | 2.3 | 2.8 | 74.0 |
| 20 & over | 12.3 | 17.5 | 1.9 | 1.7 | 0.6 | 34.0 |
| Total bd. ft. | 35.4 | 48.5 | 16.7 | 4.0 | 3.4 | 108.0 |

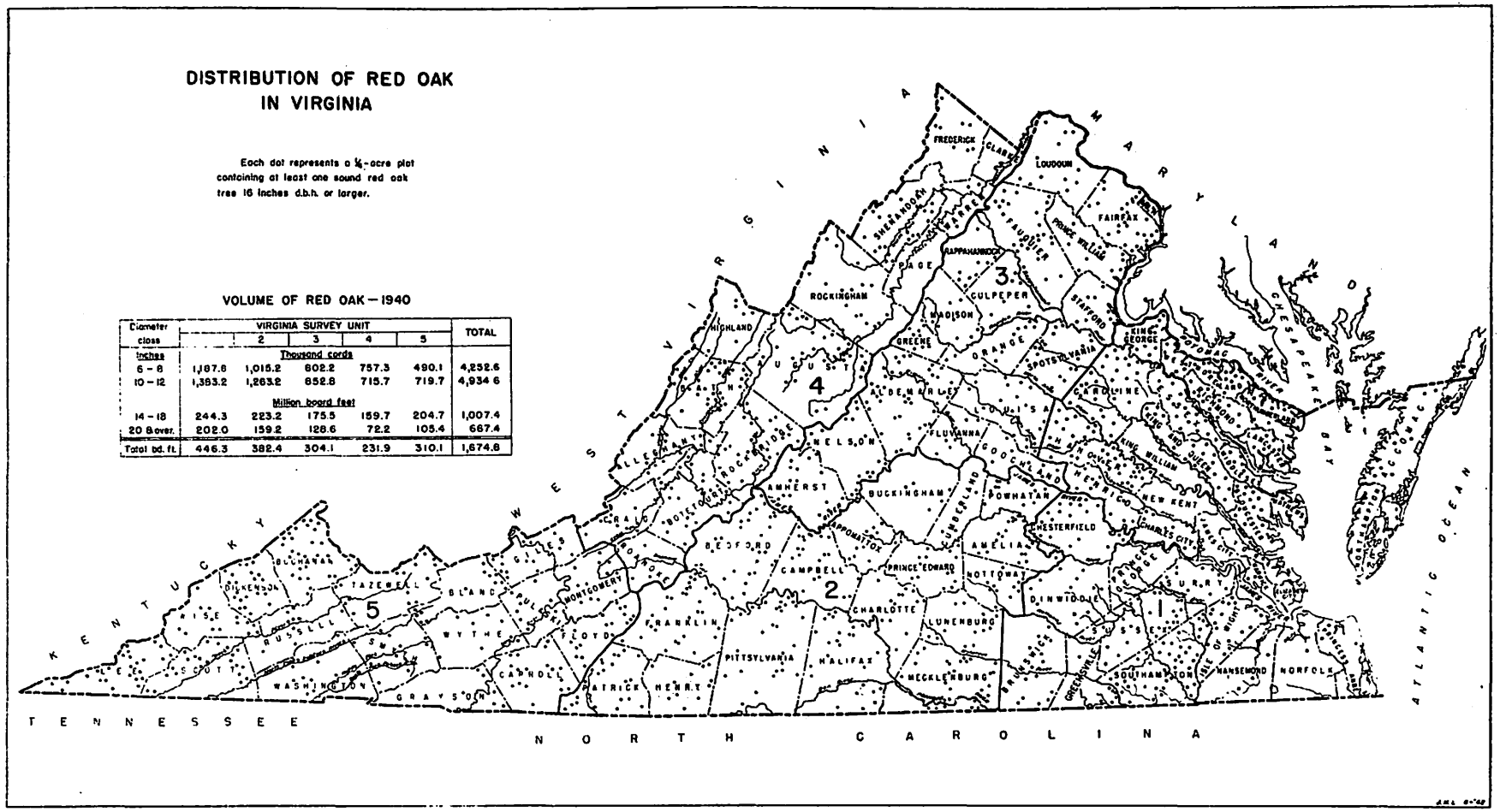


# DISTRIBUTION OF RED OAK IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound red oak tree 16 inches d.b.h. or larger.

## VOLUME OF RED OAK—1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 1,187.8 | 1,015.2 | 802.2 | 757.3 | 490.1 | 4,252.6 |
| 10 – 12 | 1,383.2 | 1,263.2 | 852.8 | 715.7 | 719.7 | 4,934 6 |
| | Million board feet | | | | | |
| 14 – 18 | 244.3 | 223.2 | 175.5 | 159.7 | 204.7 | 1,007.4 |
| 20 &over. | 202.0 | 159.2 | 128.6 | 72.2 | 105.4 | 667.4 |
| Total bd. ft. | 446.3 | 382.4 | 304.1 | 231.9 | 310.1 | 1,674.8 |

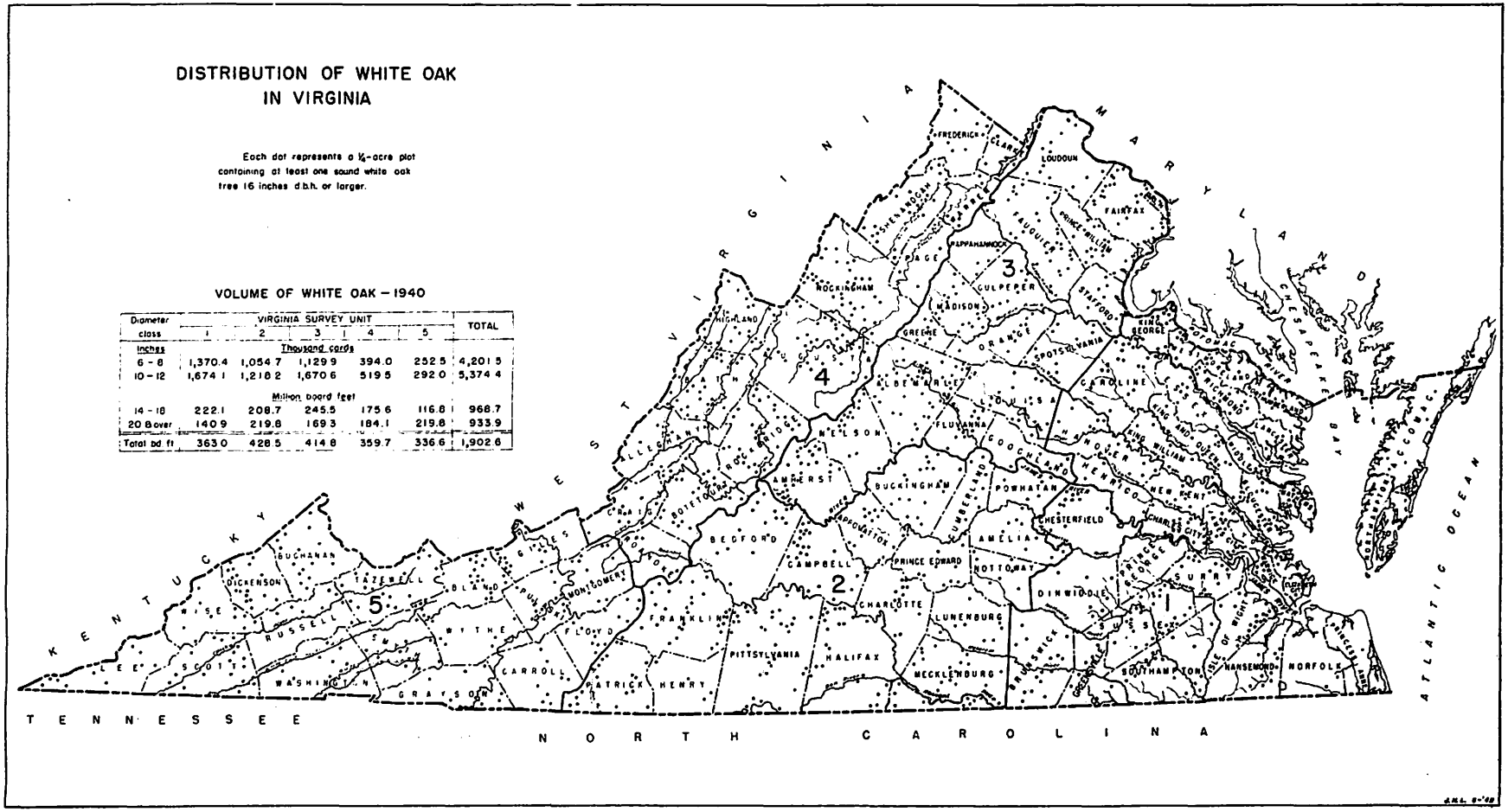


# DISTRIBUTION OF WHITE OAK IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound white oak tree 16 inches d.b.h. or larger.

## VOLUME OF WHITE OAK — 1940

| Diameter class | VIRGINIA SURVEY UNIT 1 | 2 | 3 | 4 | 5 | TOTAL |
|---|---|---|---|---|---|---|
| | Thousand cords | | | | | |
| Inches | | | | | | |
| 6 - 8 | 1,370.4 | 1,054.7 | 1,129.9 | 394.0 | 252.5 | 4,201.5 |
| 10 - 12 | 1,674.1 | 1,218.2 | 1,670.6 | 519.5 | 292.0 | 5,374.4 |
| | Million board feet | | | | | |
| 14 - 18 | 222.1 | 208.7 | 245.5 | 175.6 | 116.8 | 968.7 |
| 20.8 over | 140.9 | 219.8 | 169.3 | 184.1 | 219.8 | 933.9 |
| Total bd ft | 363.0 | 428.5 | 414.8 | 359.7 | 336.6 | 1,902.6 |

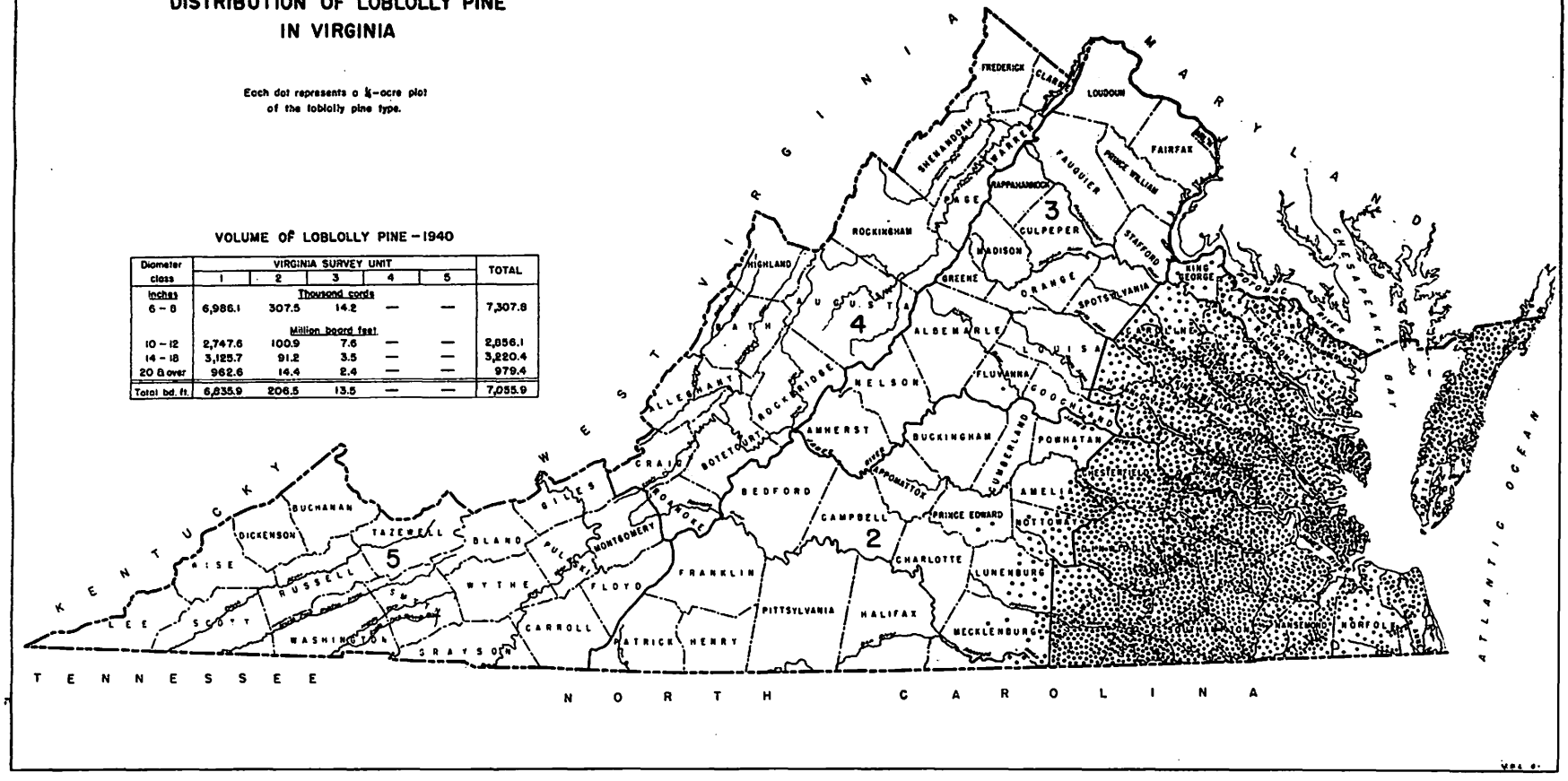


# DISTRIBUTION OF LOBLOLLY PINE IN VIRGINIA

Each dot represents a ¼-acre plot of the loblolly pine type.

## VOLUME OF LOBLOLLY PINE – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 6,986.1 | 307.5 | 14.2 | — | — | 7,307.8 |
| | Million board feet | | | | | |
| 10 – 12 | 2,747.6 | 100.9 | 7.6 | — | — | 2,856.1 |
| 14 – 18 | 3,125.7 | 91.2 | 3.5 | — | — | 3,220.4 |
| 20 & over | 962.6 | 14.4 | 2.4 | — | — | 979.4 |
| Total bd. ft. | 6,835.9 | 206.5 | 13.5 | — | — | 7,055.9 |

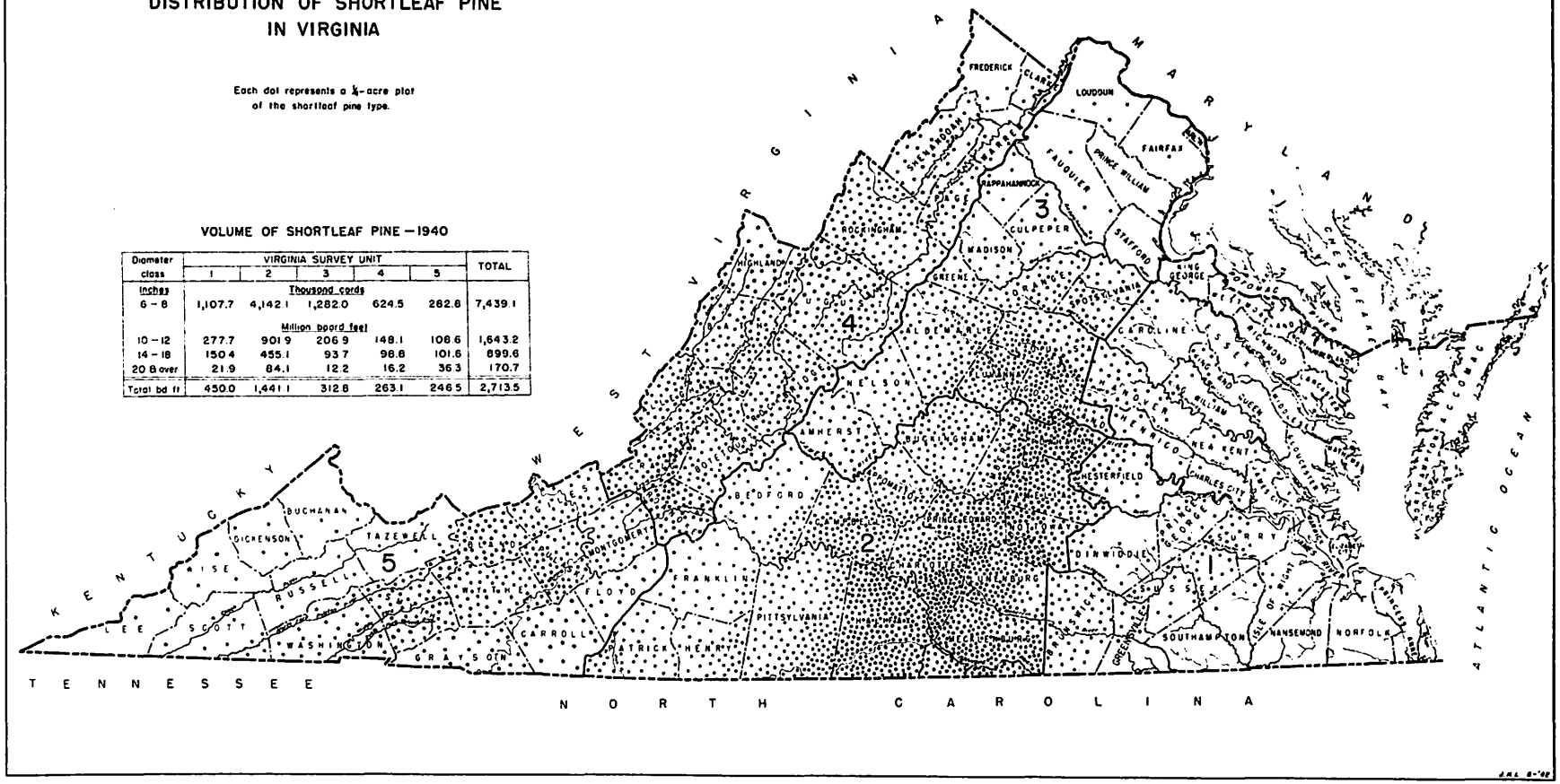


## DISTRIBUTION OF SHORTLEAF PINE IN VIRGINIA

Each dot represents a ¼-acre plot of the shortleaf pine type.

### VOLUME OF SHORTLEAF PINE — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 1,107.7 | 4,142.1 | 1,282.0 | 624.5 | 282.8 | 7,439.1 |
| | Million board feet | | | | | |
| 10 – 12 | 277.7 | 901.9 | 206.9 | 148.1 | 108.6 | 1,643.2 |
| 14 – 18 | 150.4 | 455.1 | 93.7 | 98.8 | 101.6 | 899.6 |
| 20 & over | 21.9 | 84.1 | 12.2 | 16.2 | 36.3 | 170.7 |
| Total bd ft | 450.0 | 1,441.1 | 312.8 | 263.1 | 246.5 | 2,713.5 |

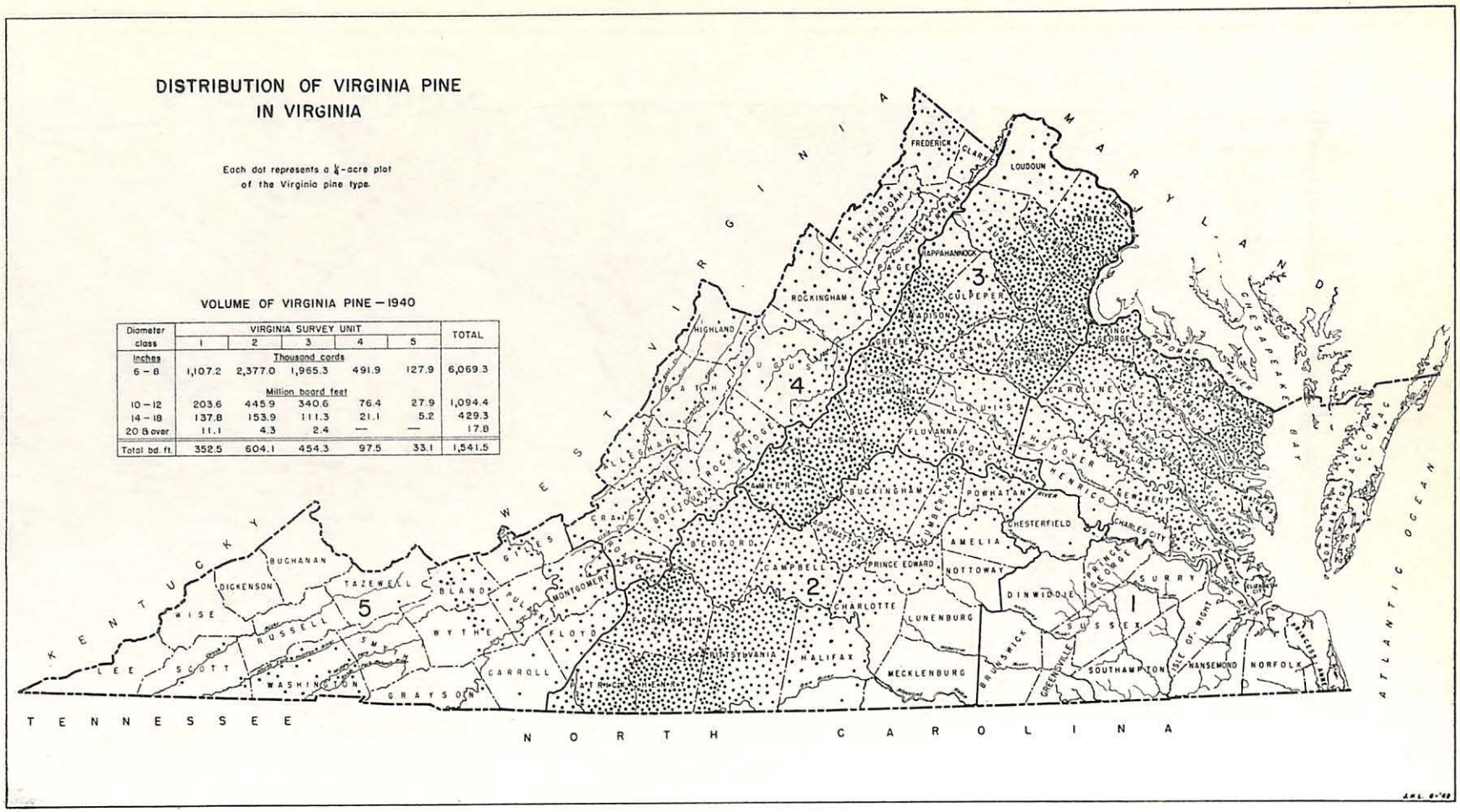


# DISTRIBUTION OF VIRGINIA PINE IN VIRGINIA

Each dot represents a ¼-acre plot of the Virginia pine type.

## VOLUME OF VIRGINIA PINE — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 1,107.2 | 2,377.0 | 1,965.3 | 491.9 | 127.9 | 6,069.3 |
| | Million board feet | | | | | |
| 10 – 12 | 203.6 | 445.9 | 340.6 | 76.4 | 27.9 | 1,094.4 |
| 14 – 18 | 137.8 | 153.9 | 111.3 | 21.1 | 5.2 | 429.3 |
| 20 & over | 11.1 | 4.3 | 2.4 | — | — | 17.8 |
| Total bd. ft. | 352.5 | 604.1 | 454.3 | 97.5 | 33.1 | 1,541.5 |

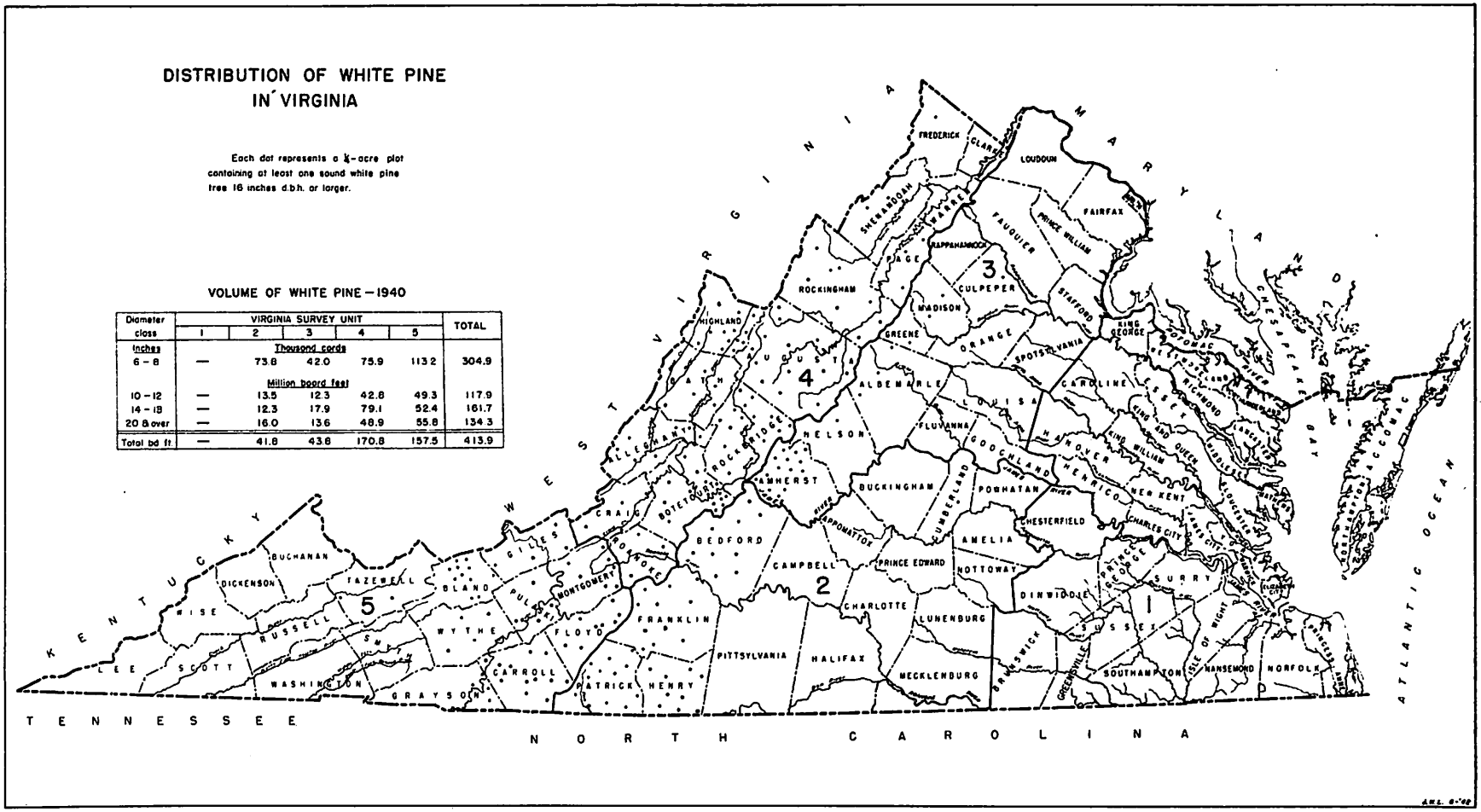


# DISTRIBUTION OF WHITE PINE IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound white pine tree 16 inches d.b.h. or larger.

## VOLUME OF WHITE PINE — 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | — | 73.8 | 42.0 | 75.9 | 113.2 | 304.9 |
| | Million board feet | | | | | |
| 10 – 12 | — | 13.5 | 12.3 | 42.8 | 49.3 | 117.9 |
| 14 – 18 | — | 12.3 | 17.9 | 79.1 | 52.4 | 161.7 |
| 20 & over | — | 16.0 | 13.6 | 48.9 | 55.8 | 134.3 |
| Total bd ft | — | 41.8 | 43.8 | 170.8 | 157.5 | 413.9 |

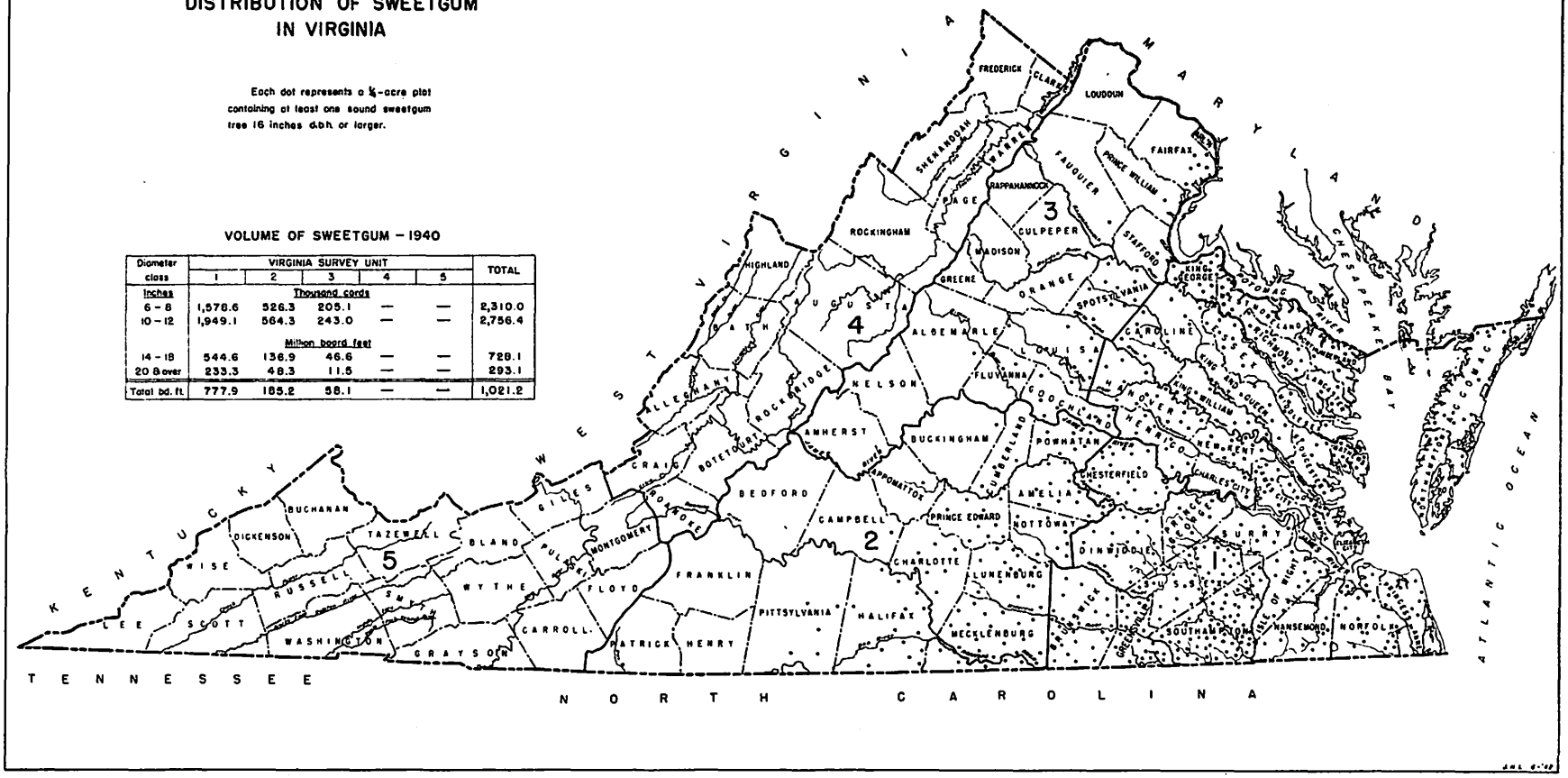


# DISTRIBUTION OF SWEETGUM IN VIRGINIA

Each dot represents a ¼-acre plot containing at least one sound sweetgum tree 16 inches d.b.h. or larger.

## VOLUME OF SWEETGUM – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 1,578.6 | 526.3 | 205.1 | — | — | 2,310.0 |
| 10 – 12 | 1,949.1 | 564.3 | 243.0 | — | — | 2,756.4 |
| | Million board feet | | | | | |
| 14 – 18 | 544.6 | 136.9 | 46.6 | — | — | 728.1 |
| 20 & over | 233.3 | 48.3 | 11.5 | — | — | 293.1 |
| Total bd. ft. | 777.9 | 185.2 | 58.1 | — | — | 1,021.2 |

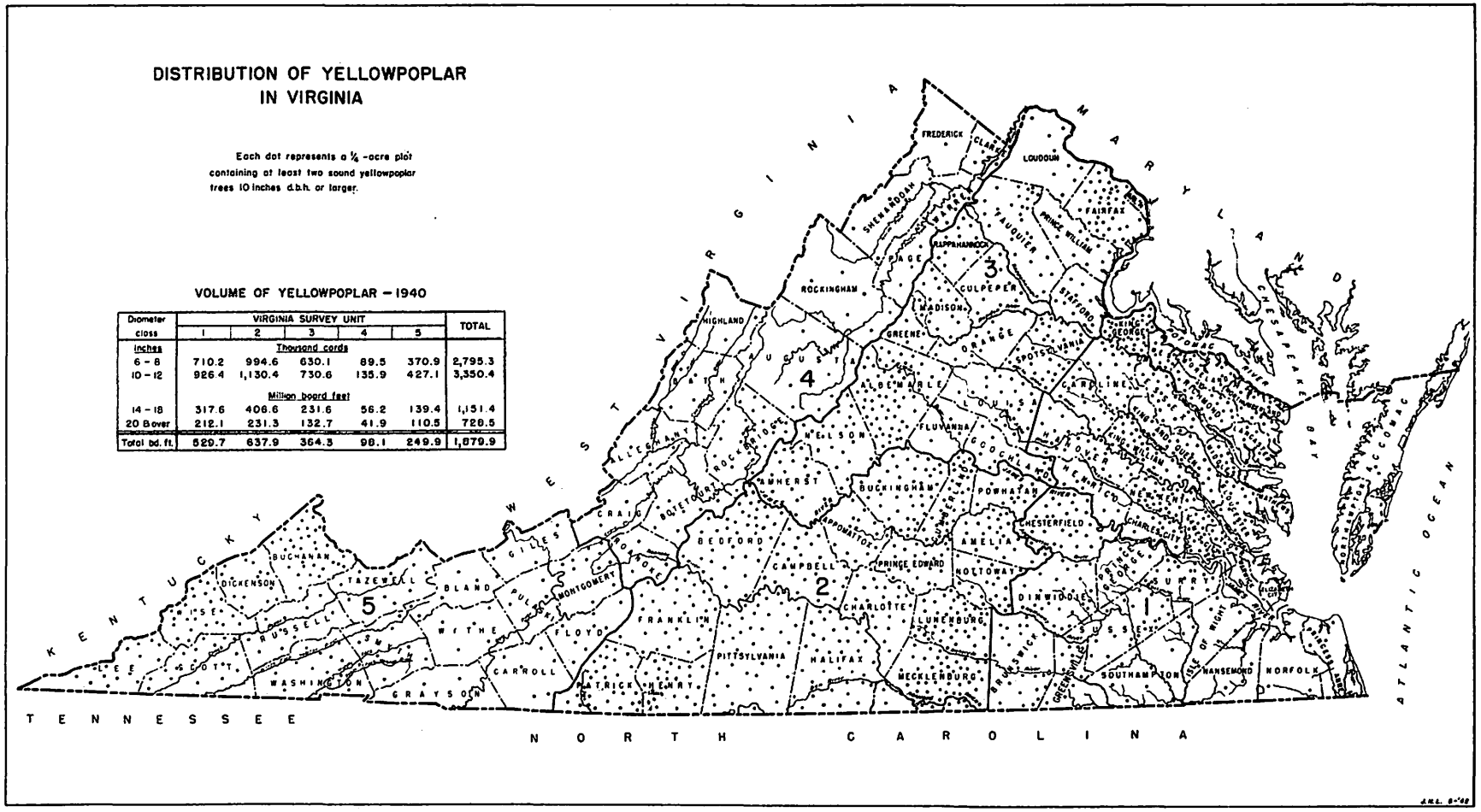


## DISTRIBUTION OF YELLOWPOPLAR IN VIRGINIA

Each dot represents a ¼ -acre plot containing at least two sound yellowpoplar trees 10 inches d.b.h. or larger.

### VOLUME OF YELLOWPOPLAR – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 710.2 | 994.6 | 630.1 | 89.5 | 370.9 | 2,795.3 |
| 10 – 12 | 926.4 | 1,130.4 | 730.6 | 135.9 | 427.1 | 3,350.4 |
| | Million board feet | | | | | |
| 14 – 18 | 317.6 | 406.6 | 231.6 | 56.2 | 139.4 | 1,151.4 |
| 20 &over | 212.1 | 231.3 | 132.7 | 41.9 | 110.5 | 728.5 |
| Total bd. ft. | 529.7 | 637.9 | 364.3 | 98.1 | 249.9 | 1,879.9 |



## DISTRIBUTION OF YELLOWPOPLAR IN VIRGINIA

Each dot represents a ⅛-acre plot containing at least one sound yellowpoplar tree 16 inches d.b.h. or larger.

### VOLUME OF YELLOWPOPLAR – 1940

| Diameter class | VIRGINIA SURVEY UNIT | | | | | TOTAL |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Inches | Thousand cords | | | | | |
| 6 – 8 | 710.2 | 994.6 | 630.1 | 89.5 | 370.9 | 2,795.3 |
| 10 – 12 | 926.4 | 1,130.4 | 730.6 | 135.9 | 427.1 | 3,350.4 |
| | Million board feet | | | | | |
| 14 – 18 | 317.6 | 406.6 | 231.6 | 56.2 | 139.4 | 1,151.4 |
| 20 & over | 212.1 | 231.3 | 132.7 | 41.9 | 110.5 | 728.5 |
| Total bd. ft. | 529.7 | 637.9 | 364.3 | 98.1 | 249.9 | 1,879.9 |